Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 13.06.95 : ISO 4113

Combination No. : 0 400 866 184

Injection pump

Pump designation : PES6A100D320/3RS2691

EP type number : 9 410 230 025

Governor

Governer design. : RSV425...900A4C2213

: -4R

Governer no.

: 0 420 233 325

Cust. part No. : 3921160

Customer-spec. information Customer : CDC

Motor : 6 CT 8.3 Power KW : 154.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 : + 2.0 Tolerance °C

: 1 417 413 047 Overflow valve

1.5 Inlet press. bar : Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5

Test Lines : 1 680 750 014

Outside diameter :

x inside diameter:

2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 2.85 Tolerance mm : **←** 0.05

Check

: + 0.10 tolerance mm

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5- 3- 6- 2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 10.00 : + 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

830 Rated speed rpm :

Rack travel in mm: 13.45

Tolerance mm : +- 0.05	+ Rated speed rpm : 930 + Tolerance 1/min : +- 5
Del. quantity cm3/1000 strokes : 139.5	rack travel mm : 4.00 Rated speed rpm : 975
cm3/1000 strokes : +- 1.0	Tolerance 1/min : + 5
Check tolerance cm3/1000s. : + 3.0	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1030
Spreed cm3/1000 strokes : 4.0	rack travel mm : 4.00 Rated speed rpm : 975
Check tolerance cm3/1000s. : 6.5	+
Rack travel in mm : 5.60 Tolerance mm : + 0.10	LOW IDLE
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 76.0 tolerance degree : + 4.0
WITH GOVERNOR	Setting point w/out bumper spring
GUIDE SLEEVE POSITION	Rated speed rpm : 425 rack travel mm : 4.70
Rated speed rpm : 800	Testing:
Rack travel in mm : 0.50 Tolerance mm : + 0.20	Rated speed rpm : 425 rack travel mm : 5.60 Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 100
Rated speed rpm : 830 Aneroid pressure	CRT mm min. :> 19.00
hPa : - Del. quantity cm3/1000 strokes : 139.5	TORQUE CONTROL
cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0	Rated speed rpm : 830 rack travel mm : 13.45 Tolerance mm : + 0.05
Spreed cm3/1000 strokes : 4.0	+
Check tolerance cm3/1000s. : 6.5	+ +
CONTROL LEVED	BREAKAWAY
CONTROL LEVER	T Book thought in mr.: 12 /0
control lever position degree : 102.0 tolerance degree : +- 4.0	Rack travel in mm: 12.40 Rated speed rpm: 930 Tolerance 1/min: + 5
RATED SPEED	<u> </u>
rack travel mm : 12.40	STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : + 1.00
Del. quantity
cm3/1000 strokes : 145.0
Check tolerance
cm3/1000s. : + 15.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 11.11.96 Test oil : ISO 4113

Combination No. : 0 400 866 188

Injection pump

Pump designation : PES6A100D320/3RS2691

EP type number : 9 410 230 025

Governor

Governer design. : RSV425...750A4C2213

: -5R

Governer no. : 0 420 233 326

Cust. part No. : 3921152

Customer—spec. information Customer : CDC Motor : 6CT— 8.3 L

Power KW : 135.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 017

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : +- 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance *NW : \leftarrow 0.75

Start of delivery blocking

*NW after s.o.d. : 10.00

Tolerance : + 0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Del. quantity

cm3/1000 strokes : 143.5

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. : + 3.0 Spreed cm3/1000 strokes : 4.0	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 900 rack travel mm : 4.00
Check tolerance cm3/1000s. : 6.5	- Rated speed rpm : 845 - -
Rack travel in mm: 6.10 Tolerance mm: +- 0.10 (B) SETTING OF INJECTION PUMP WITH GOVERNOR	LOW IDLE control lever position degree : 80.0 tolerance degree : + 4.0 Setting point w/out bumper spring
GUIDE SLEEVE POSITION	- Rated speed rpm : 425 - rack travel mm : 5.60
Rated speed rpm : 800	Testing:
Rack travel in mm: 0.50 Tolerance mm: + 0.20	Rated speed rpm : 425 rack travel mm : 6.10 Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	- Rated speed rpm : 100
Rated speed rpm : 750 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 143.5 cm3/1000 strokes : + 1.0 Check tolerance	CRT mm min. :> 19.00
cm3/1000s. : + 3.0 + 5 cm3/1000 strokes : 4.0 + 6 cm3/1000 strokes : 4 cm3/	BREAKAWAY
Check tolerance cm3/1000s. : 6.5	Rack travel in mm : 13.00 Rated speed rpm : 800 Tolerance 1/min : +- 5
CONTROL LEVER	
control lever position degree : 90.0 tolerance degree : + 4.0 RATED SPEED	STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : +- 1.00
rack travel mm : 13.00 Rated speed rpm : 800 Tolerance 1/min : + 5	Del. quantity cm3/1000 strokes : 145.0 cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s. : +- 15.0
rack travel mm : 4.00 + Rated speed rpm : 840 + Tolerance 1/min : + 5	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 20,03,96 : ISO 4113

Combination No. : 0 400 866 190

Injection pump

Pump designation : PES6A100D320/3RS2691

EP type number : 9 410 230 025

Governor

Governer design. : RSV400...1250A0C2216

: -5R

Governer no.

: 0 420 233 327

Cust. part No. : 3921144

Customer-spec. information

Customer : CDC

Motor

: 6 CT 8.3 ltr

Power KW

: 160.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C

: 40 : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar :

Tolerance bar : +- 0.1

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar

: + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter:

2.0

x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.85 : +- 0.05 Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm : 10.50

Tolerance mm : \leftarrow 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

: + 0.50 Tolerance

Check

tolerance *NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 11.00 : + 0.50Tolerance

Check

tolerance 'NW : +- 0.75

Barrel no.

: 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 12.05

Tolerance mm : + 0.05	+ Rated speed rpm : 1310 + Tolerance 1/min : +- 5
Del. quantity cm3/1000 strokes : 119.5	rack travel mm : 4.00
cm3/1000 strokes : +- 1.0	Rated speed rpm : 1390 Tolerance 1/min : + 5
Check tolerance cm3/1000s. : +- 3.0	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1450
Spreed : 4.0 -	rack travel mm : 4.00 Rated speed rpm : 1395
Check tolerance cm3/1000s. : 6.5	Traced Speed (p.m. 1975
Rack travel in mm : 5.50 Tolerance mm : + 0.10	LOW IDLE
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 80.0 tolerance degree : +- 4.0
	Setting point w/out bumper spring
GUIDE SLEEVE POSITION -	Rated speed rpm : 400 rack travel mm : 5.00
Rated speed rpm : 800	Testing:
Rack travel in mm: 0.50 - Tolerance mm: + 0.20 -	Rated speed rpm : 400 rack travel mm : 5.50 Tolerance mm : +- 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 100
Rated speed rpm : 1250 - Aneroid pressure - hPa : -	CRT mm min. : > 19.00
Del. quantity - cm3/1000 strokes : 119.5 -	TORQUE CONTROL
cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed	Rated speed rpm : 1250 rack travel mm : 12.05 Tolerance mm : +- 0.05
cm3/1000 strokes : 4.0 - Check tolerance - cm3/1000s. : 6.5	Rated speed rpm : 750 rack travel mm : 12.40 Tolerance mm : + 0.10
CONTROL LEVER	
control lever - position degree : 106.0 -	FUEL DELIVERY CHARACTERISTICS
tolerance degree : +- 4.0	Aneroid pressure hPa : -
RATED SPEED	Rated speed rpm : 750 Del. quantity
rack travel mm : 11.00	cm3/1000 strokes : 127.0

cm3/1000 strokes : + 2.0

Check tolerance

cm3/1000s. : + 4.0

BREAKAWAY

Rack travel in mm : 11.00
Rated speed rpm : 1310
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : + 10.0 Cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 15.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 13.06.95 Test oil : ISO 4113

Combination No. : 0 400 866 204

Injection pump

Pump designation : PES6A100D320/3RS2691

EP type number : 9 410 230 025

Governor

Governer design. : RSV400...1100A0C2190

: -76R

Governer no. : 0 420 233 315

Cust. part No. : 3921163

Customer-spec. information

Customer : CDC

: 6 CT 8.3ltr Motor 173.0

Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

1.5 Inlet press. bar : Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05 Check : ← 0.10 tolerance mm

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300 Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 11.00 : +- 0.50 Tolerance

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 10.75

Tolerance mm : +- 0.05	RATED SPEED
Del. quantity cm3/1000 strokes : 99.0	rack travel mm : 9.70
cm3/1000 strokes : + 1.0	+ Rated speed rpm : 1175 + Tolerance 1/min : + 5
Check tolerance cm3/1000s. : +- 3.0	rack travel mm : 4.00 Rated speed rpm : 1240 Tolerance 1/min : +- 5
Spreed cm3/1000 strokes : 4.0	rack travel mm : 0.85 Tolerance mm : + 0.55
Check tolerance cm3/1000s. : 6.5	Rated speed rpm : 1300
Rack travel in mm : 5.70	rack travel mm : 4.00 Rated speed rpm : 1245
Tolerance mm : + 0.10	
(B) SETTING OF INJECTION PUMP	LOW IDLE
WITH GOVERNOR	control lever position degree : 79.0
GUIDE SLEEVE POSITION	tolerance degree : +- 4.0
Rated speed rpm : 800	Setting point w/out bumper spring
	Rated speed rpm : 425
Rack travel in mm : 0.50 Tolerance mm : + 0.20	rack travel mm : 5.20
governor spring	† Testing:
pre-tension	Rated speed rpm : 425
click setting x : 2.50	+ rack travel mm : 5.70
	+ Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 100
Rated speed rpm : 1100 Aneroid pressure	CRT mm min. : > 19.00
hPa : -	TODOUT JONITORI
Del. quantity cm3/1000 strokes : 99.0	TORQUE CONTROL
cm3/1000 strokes : +- 1.0	Rated speed rpm : 1100
Check tolerance	rack travel mm : 10.75
cm3/1000s. : + 3.0	Tolerance mm : + 0.05
Spreed cm3/1000 strokes : 4.0	İ
Check tolerance	Ţ
cm3/1000s. : 6.5	
	BREAKAWAY
CONTROL LEVER	1
control lever	Rack travel in mm: 9.70
position degree : 97.0	Rated speed rpm : 1175
tolerance degree : +- 4.0	+ Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 15.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

; 20.03.96 Edition Test oil : ISO 4113

Combination No. : 0 400 866 208

Injection pump

Pump designation : PES6A100D320/3RS2691

EP type number : 9 410 230 025

Governor

Governer design. : RSV400...1100A0C2190

: -80R

Governer no. : 0 420 233 319

Cust. part No. : 3921140

Customer-spec. information

Customer : CDC : 6 CT 8.3 Motor

: 156.6 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. $^{\circ}$ C : 40 Tolerance $^{\circ}$ C : \leftarrow 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 2.85 : **←** 0.05 Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : \leftarrow 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 10.00 : + 0.50 Tolerance

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 12.35

Rated speed rpm : 1170
Tolerance 1/min : +- 5 Tolerance mm : \leftarrow 0.05 Del. quantity rack travel mm : 4.00
Rated speed rpm : 1220
Tolerance 1/min : +- 5 cm3/1000 strokes : 125.5 cm3/1000 strokes : +- 1.0 rack travel mm : 0.85
Tolerance mm : + 0.55 Check tolerance cm3/1000s. : \leftarrow 3.0 Rated speed rpm : 1300 Spreed cm3/1000 strokes : 4.0 4.00 rack travel mm : Rated speed rpm : 1230 Check tolerance cm3/1000s. 6.5 LOW IDLE Rack travel in mm: 5.30 Tolerance mm : \leftarrow 0.10 control lever position degree : 75.0 (B) SETTING OF INJECTION PUMP tolerance degree : + 4.0 WITH GOVERNOR Setting point w/out bumper spring Rated speed rpm : 425 4.80 GUIDE SLEEVE POSITION rack travel mm Rated speed rpm : 800 Testing: Rack travel in mm : 0.50 Rated speed rpm : 425 rack travel mm : 5.30
Tolerance mm : + 0.10 Tolerance mm : +- 0.20 Rated speed rpm : 100 FULL LOAD DELIVERY AT FULL LOAD STOP CRT mm min. : > 19.00 Rated speed rpm : 1100 Aneroid pressure hPa TORQUE CONTROL Del. quantity cm3/1000 strokes : 125.5 Rated speed rpm : 1100 rack travel mm : 12.35 Tolerance mm : +- 0.05 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : +- 3.0 Spreed cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 6.5 BREAKAWAY CONTROL LEVER Rack travel in mm: 11.30 control lever position degree : 94.0 Rated speed rpm : 1170 Tolerance 1/min : + 5 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.30 STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : + 1.00
Del. quantity
cm3/1000 strokes : 145.0
cm3/1000 strokes : + 10.0
Check tolerance
cm3/1000s. : + 15.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.11.95 Test oil : ISO 4113

Combination No. : 0 400 866 212

Injection pump

Pump designation : PES6A100D320/3RS2691

: -4

EP type number : 9 410 230 030

Governor

Governer design. : RSV450...1100A0C2190

: -82R

Governer no. : 0 420 233 321

Cust. part No. : 3931268

Customer—spec. information
Customer : CDC
Motor : 6CT830
Power KW : 117.1

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. *C : 40 Tolerance *C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance *NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 11.00

Tolerance : + 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 10.65

Tolonomo	
Tolerance mm : +- 0.05	
Del. quantity	CONTROL LEVER
cm3/1000 strokes : 96.5	control lever
cm3/1000 strokes : + 1.0 +	position degree : 104.0
+	tolerance degree : +- 6.0
Check tolerance cm3/1000s. : + 3.0 +	RATED SPEED
Spreed	rack travel mm : 9.60
cm3/1000 strokes : 4.0	Rated speed rpm : 1160
Check tolerance	Tolerance 1/min : +- 5
cm3/1000s. : 6.5	rack travel mm : 4.00
Patrid around annual (FO	Rated speed rpm : 1235
Rated speed rpm : 450	Tolerance 1/min : +- 5
Ţ	rack travel mm : 0.85
Rack travel in mm: 5.60	Tolerance mm : + 0.55
Tolerance mm : +- 0.10	Rated speed rpm : 1325
Del. quantity + cm3/1000 strokes : 16.5 +	rack travel mm : 4.00
cm3/1000 strokes : + 2.0	Rated speed rpm : 1245
Check tolerance	Water open i più i i i i i i
cm3/1000s. : +- 4.5	
Spreed	LOUTNIE
cm3/1000 strokes : 6.0 + Check tolerance +	LOW IDLE
cm3/1000s. : 8.0	
+	control lever
+	position degree : 84.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	tolerance degree : +- 6.0
WITH GOVERNOR	Setting point w/out bumper spring
+	
	Rated speed rpm : 450
GUIDE SLEEVE POSITION	rack travel mm : 5.10
Rated speed rpm : 800	Testing:
Rack travel in mm: 0.50	Rated speed rpm : 450
Tolerance mm : + 0.20 +	rack travel mm : 5.60 Tolerance mm : + 0.10
†	Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 100
Rated speed rpm : 1100 + Aneroid pressure	CRT man min. : > 19.00
hPa : - +	
Del. quantity	TORQUE CONTROL
cm3/1000 strokes : 96.5	Poted speed man . 1100
cm3/1000 strokes : + 1.0 + Check tolerance +	Rated speed rpm : 1100 rack travel mm : 10.65
cm3/1000s. : +- 3.0	Tolerance mm : +- 0.05
Spreed	
cm3/1000 strokes : 4.0	Rated speed rpm : 750 rack travel mm : 11.10
Check tolerance + cm3/1000s. : 6.5	rack travel mm : 11.10 Tolerance mm : + 0.10
T	Total direction O. 10
ľ	

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

750 Rated speed rpm

Del. quantity

cm3/1000 strokes : 94.0 cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : +- 4.0

BREAKAWAY

9,60 Rack travel in mm : Rated speed rpm : 1160 Tolerance 1/min : +-

STARTING FUEL DELIVERY

100 Rated speed rpm 20.00 rack travel mm : : + 1.00 Tolerance mm

Del. quantity

cm3/1000 strokes : 145.0 cm3/1000 strokes : + 10.0

Check tolerance

cm3/1000s. : +- 15.0

LOW IDLE

450 Rated speed rom Del. quantity cm3/1000 strokes : 16.5 2.0 cm3/1000 strokes : +-Check tolerance 4.5 cm3/1000s. Spreed

6.0 cm3/1000 strokes :

Check tolerance

8.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 13.09.95 Test oil : ISO 4113

Combination No. : 0 400 876 394

Injection pump

Pump designation : PES6A100D410RS2754 EP type number : 0 410 806 002

Governor

Governer design. : RSV425...1100A0C2234

: -2L

: 0 420 232 569 Governer no.

Cust. part No. : RE51026

Customer-spec. information Customer : DEERE : 6076TRW04 Motor Power KW : 122.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C Tolerance *C

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : + 1.0

Prestroke mm : 3.00 Tolerance mm : + 0.05 Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

: +- 0.50 Tolerance

Check

tolerance "NW : **←** 0.75

Start of delivery blocking

*NW after s.o.d. : 13.50 Tolerance : \leftarrow 0.50

Check

tolerance *NW : **←** 0.75

: 1 Barrel no.

Beginning of delivery differende

and maximum rack

travel : 10.50
Tolerance mm : + 1.50
Difference ° CS : 7.00

BASIC SETTING

Rated speed rpm : 1100	Spreed cm3/1000 strokes : 4.0 Check tolerance
Rack travel in mm: 10.65 Tolerance mm: +- 0.05	cm3/1000s. : 6.5
Del. quantity cm3/1000 strokes : 101.5	CONTROL LEVER
cm3/1000 strokes : +- 1.0	position degree : 95.0 tolerance degree : +- 4.0
Check tolerance cm3/1000s. : +- 3.0	RATED SPEED
Spreed cm3/1000 strokes : 4.0	rack travel mm : 9.60 Rated speed rpm : 1150 Tolerance 1/min : +- 5
Check tolerance cm3/1000s. : 6.5	rack travel mm : 4.00 Rated speed rpm : 1205
Rated speed rpm : 425	Tolerance 1/min : + 5
+	rack travel mm : 0.85
Rack travel in mm: 5.60	Tolerance mm : + 0.55
Tolerance mm : + 0.10 + Del. quantity +	Rated speed rpm : 1300
cm3/1000 strokes : 28.0	rack travel mm : 4.00
cm3/1000 strokes : +- 2.0	Rated speed rpm : 1205
Check tolerance	nated opera i pin . Teos
cm3/1000s. : + 4.0	
Spreed	
cm3/1000 strokes : 6.0 +	LOW IDLE
Check tolerance +	
cm3/1000s. : 8.0 +	
+	control lever
(2)	position degree : 71.0
(B) SETTING OF INJECTION PUMP +	tolerance degree : +- 4.0
WITH GOVERNOR	Setting point w/out bumper spring
	Rated speed rpm : 425
GUIDE SLEEVE POSITION	rack travel mm : 5.10
Rated speed rpm : 800	Testing:
Rack travel in mm: 0.50	Rated speed rpm : 425
Tolerance mm : +- 0.20 +	rack travel mm : 5.60
+	Tolerance mm : +- 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 100
+	Ann
Rated speed rpm : 1100 + Aneroid pressure +	CRT mm main. : > 19.00
hPa : - +	
Del. quantity	TORQUE CONTROL
cm3/1000 strokes : 101.5	Dated aread man : 4400
cm3/1000 strokes : + 1.0	Rated speed rpm : 1100 rack travel mm : 10.65
Check tolerance + 3.0 +	rack travel mm : 10.65 Tolerance mm : +- 0.05
(mb/1000s. ; 7 5.0 †	TO LET ATIVE HATE TO U.U.

700 Rated speed rpm : rack travel mm : 12.00 : +- 0.20 Tolerance mm START CUT-OUT 100 Rated speed rpm : > Check 80 speed 1/min : > FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa 700 Rated speed rpm : Del. quantity cm3/1000 strokes : 126.5 cm3/1000 strokes : +- 1.5 Check tolerance cm3/1000s. : **←** 4.0 **BREAKAWAY** 9.60 Rack travel in mm : Rated speed rpm : 1150
Tolerance 1/min : + 5 STARTING FUEL DELIVERY 100 Rated speed rpm : Del. quantity cm3/1000 strokes : 110.0 cm3/1000 strokes : + 10.0Check tolerance cm3/1000s.: +- 15.0 LOW IDLE Rated speed rpm : 425 Del. quantity cm3/1000 strokes : 28.0 cm3/1000 strokes : +-2.0 Check tolerance : +cm3/1000S.4.0 Spreed cm3/1000 strokes : 6.0 Check tolerance

8.0

End of test specification sheet

cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 08.03.96 Test oil : ISO 4113

Combination No. : 0 400 876 395

Injection pump

Pump designation : PES6A1000410RS2676 EP type number : 9 410 230 023

Governor

Governer design. : RSV425...1100A2C2161

: -1L

: 9 420 234 133 Governer no.

Cust. part No. : RE23746

Customer-spec. information : DEERE Customer Motor : 6466T Power KW : 120.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : **←** 2.0 Tolerance °C

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar : +-

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

: 2.50 : + 0.05 Prestroke mm Tolerance mm Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : \leftarrow 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

: +- 0.50 Tolerance

Check

: +- 0.75 tolerance *NW

Start of delivery mark

*NW after s.o.d. : 15.50 Tolerance : + 0.50

Check

: +- 0.75 tolerance *NW

: 1 Barrel no.

Beginning of delivery differende

Difference * CS : 8.50

BASIC SETTING

Pated speed rpm : 1100

Rack travel in mm: 9.40 Tolerance mm: +- 0.05
Del. quantity cm3/1000 strokes : 99.5
cm3/1000 strokes : + 1.0
Check tolerance cm3/1000S. : + 3.0
Spreed cm3/1000 strokes : 4.0
Check tolerance cm3/1000s. : 6.5
Rated speed rpm : 425
Rack travel in mm : 5.40 Tolerance mm : + 0.10
Del. quantity cm3/1000 strokes : 22.5 cm3/1000 strokes : + 2.0
Check tolerance cm3/1000s. : + 4.5
Spreed cm3/1000 strokes : 6.0 Check tolerance
cm3/1000s. : 8.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR
GUIDE SLEEVE POSITION
Rated speed rpm : 800
Rack travel in mm: 0.50 Tolerance mm: + 0.20
FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 1100 Aneroid pressure hPa : 700 Del. quantity cm3/1000 strokes : 99.5 cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0 Spreed cm3/1000 strokes : 4.0
TIO TIO

Check tolerance cm3/1000s,	: 6.5
CONTROL LEVER	
control lever position degree tolerance degree	: 103.0 : +- 4.0
RATED SPEED	
rack travel mm Rated speed rpm Tolerance 1/min	: 8.40 : 1150 : +- 5
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1210 : + 5
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : +- 0.55 : 1300
rack travel mm Rated speed rpm	: 4.00 : 1210
LOW IDLE	
tow IDLE control lever position degree tolerance degree	: 80.0 : +- 4.0
control lever	: + 4.0
control lever position degree tolerance degree	: +- 4.0 out bumper spring : 425
control lever position degree tolerance degree Setting point w/c Rated speed rpm	: +- 4.0 out bumper spring : 425
control lever position degree tolerance degree Setting point w/o Rated speed rpm rack travel mm	: +- 4.0 out bumper spring : 425 : 4.90 : 425
control lever position degree tolerance degree Setting point w/o Rated speed rpm rack travel mm Testing: Rated speed rpm rack travel mm	: +- 4.0 out bumper spring : 425 : 4.90 : 425 : 5.40 : +- 0.10
control lever position degree tolerance degree Setting point w/o Rated speed rpm rack travel mm Testing: Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: +- 4.0 out bumper spring : 425 : 4.90 : 425 : 5.40 : +- 0.10
control lever position degree tolerance degree Setting point w/o Rated speed rpm rack travel mm Testing: Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: + 4.0 but bumper spring : 425 : 4.90 : 425 : 5.40 : + 0.10 : 100
control lever position degree tolerance degree Setting point w/o Rated speed rpm rack travel mm Testing: Rated speed rpm rack travel mm Tolerance mm Rated speed rpm CRT mm min.	: + 4.0 out bumper spring : 425 : 4.90 : 425 : 5.40 : + 0.10 : 100 : > 19.00

Tolerance mm	: 10.80 : +- 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa	: 500 : 700
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 9.30 : + 0.10
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 175 : 10.35 : + 0.05
Pressure hPa rack travel mm Tolerance mm	: 80 : 9.60 : +- 0.20
START CUT-OUT	
Rated speed rpm	; > 100
Check	
	: > 80
speed 1/min FUEL DELIVERY CHA	
speed 1/min	

BREAKAWAY

Rack travel in mm : 8.40
Rated speed rpm : 1150
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 200.0
cm3/1000 strokes : + 10.0
Check tolerance
cm3/1000s. : + 15.0

LOW IDLE

Rated speed rpm : 425
Del. quantity
cm3/1000 strokes : 22.5
cm3/1000 strokes : +- 2.0
Check tolerance
cm3/1000s. : +- 4.5
Spreed
cm3/1000 strokes : 6.0
Check tolerance
cm3/1000s. : 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 04.10.95 Edition Test oil : ISO 4113

Combination No. : 0 400 876 424

Injection pump

Pump designation : PES6A1000410RS2762

: -1

: 0 410 806 008 EP type number

Governor

Governer design. : RSV425...1050A2C2277

: 0 420 232 601 Governer no.

Cust. part No. : RE62035

Customer-spec. information

Customer : DEERE Motor : 6076TRW-30

Power KW : 129.5

TEST BENCH REQUIREMENTS

Inlet line : 2.4

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : + 1.0

Prestroke mm : 3.00 Tolerance mm : + 0.05 Check

tolerance mm : \leftarrow 0.10

Rack travel in mm: 10.50 Tolerance mm : \leftarrow 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

: +- 0.50 Tolerance

Check

: **←** 0.75 tolerance *NW

Start of delivery mark

*NW after s.o.d. : 13.50 Tolerance : +- 0.50

Check

tolerance 'NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 11.20 Tolerance mm : + 0.05

Del. quantity		+ Check tolerance
cm3/1000 strokes	: 106.5	cm3/1000s.
cm3/1000 strokes	: + 1.0	<u> </u>
Check tolerance cm3/1000s.	: + 3.0	CONTROL LEVER
Spreed		control lever position degree
m3/1000 strokes	: 4.0	tolerance degree
heck tolerance m3/1000s.	: 6.5	RATED SPEED
ted speed rpm	: 425	+ rack travel mm + Rated speed rpm
ed speed i biii	, 423	Tolerance 1/min
Rack travel in mm		rack travel mm
olerance mm	: + 0.10	+ Rated speed rpm + Tolerance 1/min
el. quantity m3/1000 strokes	: 26.0	T Toterance Train
m3/1000 strokes		rack travel mm
heck tolerance		+ Tolerance mm
3/1 000 s.	: +- 4.0	+ Rated speed rpm
reed		†
m3/1000 strokes heck tolerance	: 6.0	+ rack travel mm + Rated speed rpm
3/1000s.	: 8.0	T Nated Speed (pill)
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP	+ LOW IDLE + control lever
		+ position degree
UIDE SLEEVE POSI	TION	tolerance degree
ated speed rpm	: 800	Setting point w/c
ack travel in mm		Rated speed rpm
lerance mm	: +- 0.20	rack travel mm
overnor spring		+ Testing:
e-tension	5.00	
ick setting x	: 5.00	+ Rated speed rpm + rack travel mm
		→ Tolerance mm
ULL LOAD DELIVER	Y AT FULL LOAD STOP	Tolerance mm
	Y AT FULL LOAD STOP	Tolerance mm Rated speed rpm
ated speed rpm		+
lated speed rpm neroid pressure Pa		Rated speed rpm
lated speed rpm uneroid pressure Pa el. quantity	: 1050 : -	Rated speed rpm CRT mm min.
ated speed rpm neroid pressure Pa el. quantity m3/1000 strokes	: 1050 : - : 106.5	Rated speed rpm
mated speed rpm neroid pressure Pa el. quantity m3/1000 strokes m3/1000 strokes	: 1050 : -	Rated speed rpm CRT mm min. TORQUE CONTROL
ated speed rpm neroid pressure Pa el. quantity m3/1000 strokes	: 1050 : - : 106.5	Rated speed rpm CRT mm min. TORQUE CONTROL Rated speed rpm rack travel mm
ated speed rpm neroid pressure Pa el. quantity m3/1000 strokes m3/1000 strokes heck tolerance m3/1000s. preed	: 1050 : - : 106.5 : ← 1.0 : +- 3.0	Rated speed rpm CRT mm min. TORQUE CONTROL Rated speed rpm
ated speed rpm meroid pressure Pa el. quantity m3/1000 strokes m3/1000 strokes meck tolerance m3/1000s.	: 1050 : - : 106.5 : ← 1.0 : +- 3.0	Rated speed rpm CRT mm min. TORQUE CONTROL Rated speed rpm rack travel mm

cm3/1000s.	: 6.5
CONTROL LEVER	
control lever position degree tolerance degree	: 94.0 : +- 4.0
RATED SPEED	
rack travel mm Rated speed rpm Tolerance 1/min	: 10.15 : 1100 : + 5
rack travel mm Rated speed rpm Molerance 1/min	: 1170
rack travel mm Folerance mm Rated speed rpm	: ← 0.55
rack travel mm Rated speed rpm	: 4.00 : 1170
LOW IDLE	
control lever position degree colerance degree	: 72.0 : + 4.0
Setting point w/o	ut bumper spring
Rated speed rpm rack travel mm	: 425 : 5.20
esting:	
Rated speed rpm rack travel mm Tolerance mm	: 425 : 5.70 : + 0.10
Rated speed rpm	: 100
RT mm min.	: > 19.00
ORQUE CONTROL	
eated speed rpm rack travel mm olerance mm	: 1050 : 11.20 : + 0.05
ated speed rpm	: 750

rack travel mm : 12.85 : +- 0.10 Tolerance mm START CUT-OUT Rated speed rpm : > 100 Check speed 1/min : > 80 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa 750 Rated speed rpm Del. quantity cm3/1000 strokes : 133.0 cm3/1000 strokes : \leftarrow 2.0 Check tolerance cm3/1000s. : +-4.0 **BREAKAWAY** Rack travel in mm: 10.15 Rated speed rpm : 1100 Tolerance 1/min : +-STARTING FUEL DELIVERY Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 110.0 cm3/1000 strokes : \leftarrow 10.0 Check tolerance cm3/1000s. : + 15.0 LOW IDLE Rated speed rpm : 425 Del. quantity cm3/1000 strokes : 26.0 cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +-4.0 Spreed cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 8.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.11.96 Test oil : ISO 4113

Combination No. : 0 400 876 429

Injection pump

Pump designation : PES6A95D32OLS2853 EP type number : 0 410 896 891

Governor

Governer design. : RSV415...1100A5C2276

: -2R

Governer no. : 0 420 233 347

Cust. part No. : 1824775091

Customer-spec. information
Customer : NAVISTAR
Motor : DT-466
Power KW : 119.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 058

Inlet press. bar : 2.8

Test nozzle holde

assembly : 1 688 901 110

Opening pressure

bar : 251.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.50
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm: 10.50
Tolerance mm: + 1.50

Firing order : 1-5- 3- 6- 2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance *NW : \leftarrow 0.75

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.35 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 87.5

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : \leftarrow 3.0

Spreed

cm3/1000 strokes : 3.5

Check tolerance cm3/1000s. : 6.0 Rack travel in mm: 5.60 Tolerance mm : +- 0.10 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm: 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x: 3.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100 Aneroid pressure : 1200 hPa Del. quantity cm3/1000 strokes : 87.5 cm3/1000 strokes : +- 1.0 Check tolerance : + 3.0 cm3/1000s. Spreed cm3/1000 strokes : 3.5 Check tolerance cm3/1000s : 6.0 CONTROL LEVER control lever position degree : 98.0 tolerance degree : +- 6.0 RATED SPEED rack travel mm : 11.30 Rated speed rpm : 1150 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1210 Tolerance 1/min : +- 5

rack travel mm : 4.00 Rated speed rpm : 1215 LOW IDLE control lever position degree : 72.0 tolerance degree : +- 6.0 Testina: Rated speed rpm : 415 rack travel mm : 5.60 : + 0.10 Tolerance mm Rated speed rpm : 100 CRT mm min. : > 19.00 TORQUE CONTROL Rated speed rpm : 1100 rack travel mm : 12.35
Tolerance mm : + 0.05 Rated speed rpm : 800 rack travel mm : 14.00 Tolerance mm : + 0.10ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 500 Pressure hPa : 1200
rack travel mm : 14.00
Tolerance mm : + 0.20 MEASUREMENT Rated speed rpm : 500 Pressure hPa 330 rack travel mm : 13.50 : +- 0.20 Tolerance mm Pressure hPa : 200 rack travel mm : 12.75 Tolerance mm : + 0.05

Rated speed rpm : 1275

rack travel mm : 0.85
Tolerance mm : +- 0.55

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

1200 Rated speed rpm : 800

Del. quantity

cm3/1000 strokes : 108.0 cm3/1000 strokes : + 2.0

Check tolerance

cm3/1000s. : +- 4.0

Aneroid pressure

hPa : 500 Rated speed rpm

Del. quantity

cm3/1000 strokes : 96.0 cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : + 4.0

BREAKAWAY

Rack travel in mm : 11.30
Rated speed rpm : 1150
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 21.00 Tolerance mm : +- 0.50

Del. quantity

cm3/1000 strokes : 150.5 cm3/1000 strokes : +- 10.0

Check tolerance

cm3/1000s. : + 15.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 11.11.96 Test oil : ISO 4113

Combination No. : 0 402 046 857

Injection pump

Pump designation : PES6P110A320LS3330 EP type number : 0 412 016 745

Governor

Governer design. : RQV350...1250PA1126K

Governer no. : 0 421 815 383

Cust. part No. : 1823106091

Customer-spec. information Customer : NAVISTAR : DT-408 Motor Power KW : 142.0

TEST BENCH REQUIREMENTS

Inlet line : 2.4

Test oil inlet

temp. °C Tolerance °C : + 2.0

Overflow valve : 2 417 413 076

Inlet press. bar : 2.8 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar : \leftarrow 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

B03

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : ← 1.0

Prestroke mm : 3.00 Tolerance mm : + 0.05 Check

: +- 0.10 tolerance mm

Rack travel in mm : 15.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300 Tolerance : +- 0.30

Check

tolerance *NW : + 0.75

Start of delivery blocking

Tolerance : \leftarrow 0.50 Check tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 850

Rack travel in mm: 12.95 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 128.5

cm3/1000 strokes : + 1.0 +	
+	rack travel mm : 4.00
Sheck tolerance	Rated speed rpm : 1475
cm3/1000s. : $+$ 3.0	Tolerance 1/min : +- 5
Spreed	rack travel mm : 0.50
cm3/1000 strokes : 8.0	Tolerance mm : +- 0.50
tings long strokes . U.D	Rated speed rpm : 1600
Check tolerance	
cm3/1000s. : 12.0	
+	
Rated speed rpm : 325	LOW IDLE
1	•
Ruck travel in Am : 7.70	control lever
Tolerance mm : + 0.10	position degree : 79.0
Del. quantity	tolerance degree : +- 6.0
cm3/1000 strokes : 28.0	•
cm3/1000 strokes : + 2.0 +	Testing:
Check tolerance	Pated award Town 205
cm3/1000s. : + 4.5	Rated speed rpm : 325 rack travel mm : 7.70
Spreed + cm3/1000 strokes : 4.0 +	Tolerance mm : +- 0.10
Check tolerance	. Total ance than
cm3/1000s. : 6.5	Rated speed rpm : 275
+	
†	CRT mm min. :> 8.50
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 405
WITH GOVERNOR ±	Rated speed rpm : 405
I	
	TORQUE CONTROL
FULL LOAD DELIVERY AT FULL LOAD STOP	TORQUE CONTROL
+	Rated speed rpm : 850
Rated speed rpm : 850	Rated speed rpm : 850 rack travel mm : 12.95
Rated speed rpm : 850 Aneroid pressure	Rated speed rpm : 850
Rated speed rpm : 850 Aneroid pressure hPa : 1200	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 1150
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 1150 rack travel mm : 13.70
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : + 1.0	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 1150 rack travel mm : 13.70
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 1150 rack travel mm : 13.70 Tolerance mm : + 0.10 Rated speed rpm : 700
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 1150 rack travel mm : 13.70 Tolerance mm : + 0.10 Rated speed rpm : 700
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed cm3/1000 strokes : 8.0	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 1150 rack travel mm : 13.70 Tolerance mm : + 0.10
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 1150 rack travel mm : 13.70 Tolerance mm : + 0.10 Rated speed rpm : 700 rack travel mm : 12.60 Tolerance mm : + 0.20
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed cm3/1000 strokes : 8.0	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 1150 rack travel mm : 13.70 Tolerance mm : + 0.10 Rated speed rpm : 700 rack travel mm : 12.60 Tolerance mm : + 0.20
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 1150 rack travel mm : 13.70 Tolerance mm : + 0.10 Rated speed rpm : 700 rack travel mm : 12.60 Tolerance mm : + 0.20
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 1150 rack travel mm : 13.70 Tolerance mm : + 0.10 Rated speed rpm : 700
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 13.70 Tolerance mm : + 0.10 Rated speed rpm : 700 rack travel mm : 12.60 Tolerance mm : + 0.20 Rated speed rpm : 1250 rack travel mm : 13.80 Tolerance mm : + 0.20
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 1150 rack travel mm : 13.70 Tolerance mm : + 0.10 Rated speed rpm : 700 rack travel mm : 12.60 Tolerance mm : + 0.20 Rated speed rpm : 1250 rack travel mm : 13.80 Tolerance mm : + 0.20 ANEROID/ALTITUDE
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 13.70 Tolerance mm : + 0.10 Rated speed rpm : 700 rack travel mm : 12.60 Tolerance mm : + 0.20 Rated speed rpm : 1250 rack travel mm : 13.80 Tolerance mm : + 0.20
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever position degree : 121.0	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 1150 rack travel mm : 13.70 Tolerance mm : + 0.10 Rated speed rpm : 700 rack travel mm : 12.60 Tolerance mm : + 0.20 Rated speed rpm : 1250 rack travel mm : 13.80 Tolerance mm : + 0.20 ANEROID/ALTITUDE
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 1150 rack travel mm : 13.70 Tolerance mm : + 0.10 Rated speed rpm : 700 rack travel mm : 12.60 Tolerance mm : + 0.20 Rated speed rpm : 1250 rack travel mm : 13.80 Tolerance mm : + 0.20 ANEROID/ALTITUDE COMPENSATOR TEST
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever position degree : 121.0 tolerance degree : + 6.0	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 1150 rack travel mm : 13.70 Tolerance mm : + 0.10 Rated speed rpm : 700 rack travel mm : 12.60 Tolerance mm : + 0.20 Rated speed rpm : 1250 rack travel mm : 13.80 Tolerance mm : + 0.20 ANEROID/ALTITUDE
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever position degree : 121.0 tolerance degree : + 6.0 RATED SPEED	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 1150 rack travel mm : 13.70 Tolerance mm : + 0.10 Rated speed rpm : 700 rack travel mm : 12.60 Tolerance mm : + 0.20 Rated speed rpm : 1250 rack travel mm : 13.80 Tolerance mm : + 0.20 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 1250
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever position degree : 121.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 12.80	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 1150 rack travel mm : 13.70 Tolerance mm : + 0.10 Rated speed rpm : 700 rack travel mm : 12.60 Tolerance mm : + 0.20 Rated speed rpm : 1250 rack travel mm : 13.80 Tolerance mm : + 0.20 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 1250 Pressure hPa : 1200
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever position degree : 121.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 12.80 Rated speed rpm : 1310	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 1150 rack travel mm : 13.70 Tolerance mm : + 0.10 Rated speed rpm : 700 rack travel mm : 12.60 Tolerance mm : + 0.20 Rated speed rpm : 1250 rack travel mm : 13.80 Tolerance mm : + 0.20 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 1250 Pressure hPa : 1200 rack travel mm : 13.80
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever position degree : 121.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 12.80	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 1150 rack travel mm : 13.70 Tolerance mm : + 0.10 Rated speed rpm : 700 rack travel mm : 12.60 Tolerance mm : + 0.20 Rated speed rpm : 1250 rack travel mm : 13.80 Tolerance mm : + 0.20 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 1250 Pressure hPa : 1200

MEASUREMENT

Pressure hPa Rated speed rpm : 1250 rack travel mm : 11.20 : + 0.20 Tolerance mm

Rated speed rpm : 1250

530 Pressure hPa 13.50 rack travel mm : + 0.20 Tolerance mm

Pressure hPa 250 12.10 250 : rack travel mm : Tolerance (77) : + 0.05

START CUT-OUT

Rated speed rpm : > 100 Rated speed rpm : < 280

Check

speed 1/min : > 80 Check : < speed 1/min 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

1200 hPa Rated speed rpm : 1150 Del. quantity

cm3/1000 strokes : 142.0 cm3/1000 strokes : +- 2.0 Check tolerance

cm3/1000s.: +- 4.0

Spreed

cm3/1000 strokes : 8.0 Check tolerance

cm3/1000s. 12.0

Aneroid pressure

hPa Rated speed rpm : 1250 Del. quantity cm3/1000 strokes : 93.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s.: +- 4.0

BREAKAWAY

Rack travel in mm : 12.80 Rated speed rpm : 1310

B05

Tolerance 1/min : +- 15

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 140.0 cm3/1000 strokes : +- 20.0 Check tolerance cm3/1000s. : +- 25.0

LOW IDLE

Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 28.0 cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. : +-4.5 Spreed cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. 6.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 08,11,96 : ISO 4113

Combination No. : 0 402 066 710

Injection pump

Pump designation : PES6P110A120RS3357

EP type number : 0 412 016 754

Governor

Governer design. : RSV400...900P4A633

Governer no. : 0 421 833 541

Cust. part No. : 3931255

Customer-spec. information

Customer : CDC

: 6CTA ELITE Motor

Power KW : 207.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C

Overflow valve : 2 417 413 086

Inlet press. bar : 2.0

Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

B06

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

17.0 Test pressure bar :

Tolerance bar : + 1.0

Prestroke mm : 3.60 Tolerance mm : +- 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300 : + 0.30 Tolerance

Check

tolerance *NW : +- 0.50

Start of delivery blocking

*NW after s.o.d. : 7.75

Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm: 13.35

Tolerance mm : \leftarrow 0.05

Del. quantity cm3/1000 strokes : 213.0 cm3/1000 strokes : +- 1.0	Check tolerance cm3/1000s. : 7.5
Check tolerance cm3/1000s. : + 3.0	CONTROL LEVER
Spreed	<pre>control lever position degree : 102.0 tolerance degree : +- 4.0</pre>
Check tolerance cm3/1000s. : 7.5	RATED SPEED
Rated speed rpm : 400	rack travel mm : 12.30 Rated speed rpm : 960 Tolerance 1/min : + 5
Rack travel in mm: 6.20 Tolerance mm: + 0.20 Del. quantity	rack travel mm : 6.40 Rated speed rpm : 990 Tolerance 1/min : +- 5
cm3/1000 strokes : 24.0 cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.5	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1100
Spreed cm3/1000 strokes : 6.0 Check tolerance cm3/1000S. : 9.0	rack travel mm : 6.40 Rated speed rpm : 990
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	LOW IDLE
CUIDE SI EFUE POSITION	<pre>control lever position degree : 77.0 tolerance degree : + 4.0</pre>
GUIDE SLEEVE POSITION + Rated speed rpm : 800 +	Setting point w/out bumper spring
Rack travel in mm: 0.50 Tolerance mm: + 0.20	Rated speed rpm : 400 rack travel mm : 5.70
governor spring + pre-tension +	Testing:
click setting x : 4.00	Rated speed rpm : 400 rack travel mm : 6.20 Tolerance mm : + 0.20
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 100
Rated speed rpm : 900 Aneroid pressure hPa : -	CRT mm min. : < 19.00
Del. quantity + cm3/1000 strokes : 213.0 + cm3/1000 strokes : + 1.0 +	TORQUE CONTROL
Check tolerance cm3/1000s. : + 3.0 +	Rated speed rpm : 900 rack travel mm : 13.35

BREAKAWAY

Rack travel in mm : 12.30
Rated speed rpm : 960
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 21.00 Tolerance mm : + 0.50 Del. quantity cm3/1000 strokes : 165.0

cm3/1000 strokes : 165.0 cm3/1000 strokes : + 20.0 Check tolerance

cm3/1000s, : \leftarrow 25.0

LOW IDLE

Rated speed rpm : 400

Del. quantity

cm3/1000 strokes : 24.0
cm3/1000 strokes : + 2.0
Check tolerance

cm3/1000s. : +- 4.5

Spreed

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s. : 9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 13,11,96 Edition : ISO 4113 Test oil

Combination No. : 0 402 076 756

Injection pump

Pump designation : PES6P100A320LS3317 EP type number : 0 412 006 706

Governor

Governer design. : RSV400...1200P5A587 Governer no. : 0 421 833 446

Cust. part No. : 1820269091

Customer-spec. information Customer : NAVISTAR Motor : DTA-466 Power KW : 204.0

TEST BENCH REQUIREMENTS

Inlet line : 2.4

Test oil inlet

temp. °C 40 Tolerance *C 2.0

Overflow valve : 1 417 413 076

Inlet press. bar : 2.8 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0 600 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : +- 1.0

3.00 Prestroke mm : + 0.05 Tolerance mm Check : +- 0.10 tolerance mm

Rack travel in mm : 10.50 : +- 1.50 Tolerance mm

Firing order : 1-5-3-6-2-: 4

Phasing : 0-60-120-180-240

: -300 : + 0.30

Tolerance Check : +- 0.75 tolerance °NW

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm: 14.65 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 176.5

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s.

Spreed

cm3/1000 strokes : 8.0

3.0

809

Check tolerance cm3/1000s.	: 12.0	+++++++++++++++++++++++++++++++++++++++
Rack travel in mm Tolerance mm	: 5.20 : + 0.10	+
(B) SETTING OF INJ WITH GOVERNOR	ECTION PUMP	+++++++++++++++++++++++++++++++++++++++
GUIDE SLEEVE POSIT	TION	+
Rated speed rpm	: 800	Ī
Rack travel in mm Tolerance mm	: 0.50 : +- 0.20	-
governor spring pre-tension click setting x	: 3.50	+
FULL LOAD DELIVERY	AT FULL LOAD STOP	<u> </u>
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance cm3/1000s.	: 1200 : 1500 : 176.5 : + 1.0 : + 3.0 : 8.0 : 12.0	+ + + + + + + + + + + + + + + + + + +
CONTROL LEVER control lever position degree tolerance degree	: 55.0 : +- 4.0	+++++++++++++++++++++++++++++++++++++++
RATED SPEED		+
rack travel mm Rated speed rpm Tolerance 1/min	: 13.60 : 1245 : +- 5	+++++++++++++++++++++++++++++++++++++++
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1315 : +- 5	I I
rack travel mm	: 0.85	‡

Rated speed rpm	: 1400
rack travel mm Rated speed rpm	: 4.00 : 1320
LOW IDLE	
control lever position degree tolerance degree	: 25.0 : +- 4.0
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 400 : 5.20 : +- 0.10
Rated speed rpm	: 100
CRT mm min.	: > 19.00
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 1200 : 14.65 : + 0.05
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1200 : 1500 : 14.65 : + 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 8.40 : + 0.20
Rated speed rpm	: 1200
Pressure hPa rack travel mm Tolerance mm	: 650 : 13.20 : + 0.20

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa Rated speed rpm : 500

Del. quantity cm3/1000 strokes : 72.0 cm3/1000 strokes : + 2.0

Check tolerance

cm3/1000s. : + 4.0

BREAKAWAY

Rack travel in mm: 13.60 Rated speed rpm : 1245 Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : rack travel mm : 100 20.50 Tolerance mm : +- 0.50

Del. quantity

cm3/1000 strokes : 145.0 cm3/1000 strokes : \leftarrow 20.0

Check tolerance

cm3/1000s. : +- 25.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : ISO 4113

: 13.11.96

Combination No. : 0 402 076 757

Injection pump

Pump designation : PES6P100A320LS3319 EP type number : 0 412 006 707

Governor

Governer design. : RSV350...1300P5A565

Governer no. : 0 421 833 414

Cust. part No. : 1820268091

Customer-spec. information Customer : NAVISTAR : DT-408 Motor : 141.5 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 2.4

Test oil inlet

temp. °C : + 2.0 Tolerance °C

Overflow valve : 1 417 413 076

Inlet press. bar : 2.8

Overflow quantity

min. l/h : 260 Tolerance l/h : +- 10.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : + 1.0

: 3.00 : ← 0.05 Prestroke mm Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

: **←** 0.30 Tolerance

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm: 12.55

Tolerance mm : \leftarrow 0.05

Del. quantity cm3/1000 strokes : 138.5

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +- 3.0

		1
Spreed cm3/1000 strokes	: 8.0	+
Check tolerance cm3/1000s.	: 12.0	T
Rack travel in mm Tolerance mm	n: 5.60 : ← 0.10	T+++
(B) SETTING OF IN WITH GOVERNOR	NJECTION PUMP	T++++
GUIDE SLEEVE POST	ITION	+++
Rated speed rpm	: 800	#
Rack travel in ma Tolerance man		+++
governor spring pre-tension click setting x	: 3.75	++++
FULL LOAD DELIVER	RY AT FULL LOAD STOP	Ŧ
Rated speed rpm Aneroid pressure hPa	: 1300 : 1200	+++
Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	: 138.5 : ← 1.0	+++
cm3/1000s. Spreed	: + 3.0	ł
cm3/1000 strokes Check tolerance	: 8.0	+
cm3/1000s.	: 12.0	#
CONTROL LEVER		+
control lever position degree tolerance degree		++++
RATED SPEED		†
rack travel mm Rated speed rpm Tolerance 1/min	: 11.50 : 1345 : + 5	++++
rack travel mm Rated speed rpm	: 4.00 : 1405	+

Tolerance 1/min	: +- 5
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : +- 0.55 : 1500
rack travel mm Rated speed rpm	: 4.00 : 1410
LOW IDLE	
control lever position degree tolerance degree	: 71.0 : + 6.0
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 350 : 5.60 : + 0.10
Rated speed rpm	: 100
CRT mm min.	: > 19.00
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1300 : 1200 : 12.55 : +- 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 8.30 : +- 0.20
Rated speed rpm	: 1300
Pressure hPa rack travel mm Tolerance mm	: 650 : 11.50 : + 0.20

Pressure hPa : 290
rack travel mm : 9.25
Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

nra : --Rated speed rpm : 400 Del. quantity

74.5 cm3/1000 strokes : cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : +- 4.0

BREAKAWAY

Rack travel in mm : 11.50
Rated speed rpm : 1345
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50

Del. quantity cm3/1000 strokes : 135.0 cm3/1000 strokes : \leftarrow 20.0

Check tolerance

cm3/1000s. : +- 25.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 13.11.96 Test oil : ISO 4113

Combination No. : 0 402 076 760

Injection pump

Pump designation : PES6P100A320LS3317 EP type number : 0 412 006 706

Governor

Governer design. : RSV415...1100P8A577

Governer no. : 0 421 833 433

Cust. part No. : 1818694091

Customer-spec. information
Customer : NAVISTAR
Motor : DT-531
Power KW : 145.0

TEST BENCH REQUIREMENTS

Inlet line : 2.4

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 076

Inlet press. bar : 2.8 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 015

Ourside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : ← 1.0

Prestroke mm : 3.00
Tolerance mm : + 0.05
Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300 : +- 0.30

Tolerance : + 0.30 Check

tolerance *NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.75
Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 138.0

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. : + 3.0

Spreed

cm3/1000 strokes : 8.0

B15

Check tolerance		∔ Tolera	nce 1/min	: +-	5
cm3/1000s.	: 12.0	+			
			ravel mm nce mm		0.85 0.55
Rack travel in mm	: 5.30		speed rpm		
Tolerance mm	: +- 0.10	+	•		
			ravel mm	:	4.00
(B) SETTING OF IN	TECTTON DUMP	Rated	speed rpm	: 1	205
WITH GOVERNOR	320110N 1 0111	1			
		+			
		+ FOM ID	LE		
GUIDE SLEEVE POST	TION	Ţ			
			llever		
Rated speed rpm	: 800		on degree		
Rack travel in mm	: 0.50	Lotera	nce degree	; 1	0.0
Tolerance mm			llever		
•			on degree		
governor spring pre-tension		† tolera	nce degree	: +-	4.0
click setting x	: 4.50	Testin	g:		
		+			
FULL LOAD DELTI/ED	Y AT FULL LOAD STOP		speed rpm ravel mm		415 5.30
FULL LOAD DELIVER	AT FOLL LOAD STOP		nce ma		0.10
Rated speed rpm	: 1100	+		-	
Aneroid pressure	4200	Rated	speed rpm	•	100
hPa Del. quantity	: 1200	CRT mm	min	: >	19 00
cm3/1000 strokes	: 138.0	T CKI IIII	191111	•	17.00
cm3/1000 strokes		+			
Check tolerance	30	+ TORQUE	CONTROL		
cm3/1000s. Spreed	3.0	Rated	speed rpm	: 1	100
cm3/1000 strokes	: 8.0	+ rack t	ravel mm	:	12.75
Check tolerance	: 12.0	Tolera	nce mm	: +-	0.05
cm3/1000s.	: 12.0	I			
		ANEROI	D/ALTITUDE		
2017001 1 51/50		COMPEN	SATOR TEST		
CONTROL LEVER		Ī			
control lever		SETTIN	G		
position degree		+			500
tolerance degree	: ← 4.0		speed rpm re hPa	: 1	500 200
control lever			ravel mm		12.75
position degree		+ Tolera	nce mm	: +-	0.05
tolerance degree	: + 6.0	MEASUR	EMENIT		
RATED SPEED		+ MEASUR	₩1 € ¥ {		
		Pressu		:	
rack travel mm	: 11.40		speed rpm		500 8 40
Rated speed rpm Tolerance 1/min	: 1150 : +- 5		ravel mm nce mm	: +-	8.60 0.20
roterance minn		+	IV IRN		
rack travel mm	: 4.00	+ Rated	speed rpm	:	500
Rated speed rpm	: 1200	+			

Pressure hPa : 480 rack travel mm : 11.40 Tolerance mm : + 0.20

Pressure hPa : 240 rack travel mm : 9.45 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 76.5 cm3/1000 strokes : +- 2.0 Check tolerance

cm3/1000s. : +- 4.0

BREAKAWAY

Rack travel in mm : 11.40
Rated speed rpm : 1150 Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50

Del. quantity cm3/1000 strokes : 145.0 cm3/1000 strokes : +- 20.0

Check tolerance

cm3/1000s. : **←** 25.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : ISO 4113

: 13,11,96

Combination No. : 0 402 076 761

Injection pump

Pump designation : PES6P100A320LS3317 EP type number : 0 412 006 706

Governor

Governer design. : RSV415...1100P8A576

Governer no. : 0 421 833 432

Cust. part No. : 1817593091

Customer-spec. information Customer : NAVISTAR : DT-531 Motor Power KW : 161.0

TEST BENCH REQUIREMENTS

Inlet line : 2.4

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 1 417 413 076

Inlet press. bar : Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 : + 1.5 Tolerance bar

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : + 1.0

3.00 Prestroke mm · + 0.05 Tolerance mm

Check

: ← 0.10 tolerance mm

Rack travel in mm: 10.50 : +- 1.50 Tolerance mm

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300 : +- 0.30

Tolerance Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 13.35 Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 151.0

cm3/1000 strokes : + 1.0

Check tolerance : +- 3.0 cm3/1000s.

Spreed

cm3/1000 strokes : 8.0

Rack travel in mm: 5.30	Rated speed rpm : 1300
Tolerance mm : +- 0.10 (B) SETTING OF INJECTION PUMP	rack travel mm : 4.00 Rated speed rpm : 1200
WITH GOVERNOR	LOW IDLE
GUIDE SLEEVE POSITION	-
Rated speed rpm : 800	<pre>control lever position degree : 72.0 tolerance degree : + 6.0</pre>
Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring	control lever position degree : 22.0 tolerance degree : +- 4.0
pre-tension click setting x : 5.00	Testing:
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 415 rack travel mm : 5.30 Tolerance mm : + 0.10
Rated speed rpm : 1100 Aneroid pressure hPa : 1200	Rated speed rpm : 100
Del. quantity cm3/1000 strokes : 151.0 cm3/1000 strokes : +- 1.0	CRT mm min. : > 19.00
Check tolerance cm3/1000s. : +- 3.0	TORQUE CONTROL
Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0	Rated speed rpm : 1100 rack travel mm : 13.35 Tolerance mm : + 0.05
	ANEROID/ALTITUDE COMPENSATOR TEST
CONTROL LEVER	Į.
control lever position degree : 51.0 tolerance degree : + 4.0	+ SETTING + Rated speed rpm : 1100
control lever position degree : 101.0	Rated speed rpm : 1100 Pressure hPa : 1200 rack travel mm : 13.35 Tolerance mm : +- 0.05
tolerance degree : +- 6.0	MEASUREMENT
RATED SPEED	Pressure hPa : -
rack travel mm : 12.10 Rated speed rpm : 1150 Tolerance 1/min : +- 5	Rated speed rpm : 500 rack travel mm : 8.60 Tolerance mm : + 0.20
rack travel mm : 4.00 Rated speed rpm : 1195	Rated speed rpm : 1100

Pressure hPa 540 11.90 rack travel mm : +- 0.20 Tolerance mm

250 Pressure hPa 9.45 rack travel mm : +- 0.05 Tolerance mm

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa 500 Rated speed rpm

Del. quantity

cm3/1000 strokes : 76.5 cm3/1000 strokes : + 2.0

Check tolerance cm3/1000s.

4.0

BREAKAWAY

Rack travel in mm : 12.10 Rated speed rpm : 1150 Tolerance 1/min

STARTING FUEL DELIVERY

100 Rated speed rpm 20.50 rack travel mm : **←** 0.50 Tolerance mm

Del. quantity

cm3/1000 strokes : 145.0 cm3/1000 strokes : + 20.0

Check tolerance

cm3/1000s. : **←** 25.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.11.96 Test oil : ISO 4113

Combination No. : 0 402 076 763

Injection pump

Pump designation : PES6P100A320LS3317

EP type number : 0 412 006 706

Governor

Governer design. : RSV415...1100P8A579

Governer no. : 0 421 833 435

Cust. part No. : 1822012091

Customer—spec. information
Customer : NAVISTAR
Motor : DT-466
Power KW : 134.0

TEST BENCH REQUIREMENTS

Inlet line : 2.4

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 076

Inlet press. bar : 2.8 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 3.00
Tolerance mm : + 0.05
Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.35 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 125.5

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +- 3.0

Spreed

cm3/1000 strokes : 8.0

Check tolerance cm3/1000S.	: 12.0	† Tolerance 1/min	: - 5
		rack travel mm	
		+ Tolerance mm	: +- 0.55
Rack travel in mm	: 5,40	+ Rated speed rpm	: 1300
Tolerance mm	: +- 0.10	+	
		+ rack travel mm	: 4.00
		+ Rated speed rpm	: 1200
(B) SETTING OF IN	JECTION PUMP	+	
WITH GOVF VOR		+	
		+ LOW IDLE	
		+	
GUIDE SLEEVE POSI	TION	+	
	•••	+ control lever	_, _
Rated speed rpm	: 800	+ position degree	: 74.0
	0.50	tolerance degree	: +- 6.0
Rack travel in mm		†	
Tolerance mm	: ← 0.20	+ control lever	*. *
		+ position degree	
governor_spring		† tolerance degree	: +- 4.0
pre-tension		+	
click setting x	: 5.00	† Testing:	
		†	
		+ Rated speed rpm	
FULL LOAD DELIVER	Y AT FULL LOAD STOP	+ rack travel mm	: 5.40
		† Tolerance mm	: ← 0.10
Rated speed rpm	: 1100	+	
Aneroid pressure		+ Rated speed rpm	: 100
hPa	: 1200	+ .	
Del. quantity		+ CRT mm min.	: > 19.00
cm3/1000 strokes		+	
cm3/1000 strokes	: +- 1.0	+	
Check tolerance		+ TORQUE CONTROL	
cm3/1000s.	: +- 3.0	+	
Spreed		+ Rated speed rpm	
cm3/1000 strokes	: 8.0	+ rack travel mm	: 12.35
Check tolerance		† Tolerance mm	: ← 0.05
cm3/1000S.	: 12.0	+	
		+	
		+ ANEROID/ALTITUDE	
		+ COMPENSATOR TEST	
CONTROL LEVER		†	
, , ,		†	
control lever		SETTING	
position degree		†	. 4460
tolerance degree	: +- 4.0	+ Rated speed rpm	: 1100
		+ Pressure hPa	: 1200_
control lever		+ rack travel mm	: 12.35
position degree		† Tolerance mm	: +- 0.05
tolerance degree	: + 6.0	†	
		+ MEASUREMENT	
RATED SPEED		†	
	44.65	+ Pressure hPa	;
rack travel mm	: 11.20	+ Rated speed rpm	: 500
Rated speed rpm		+ rack travel mm	: 8.90
Tolerance 1/min	: +- 5	+ Tolerance mm	: +- 0.20
		†	
rack travel mm	: 4.00	+ Rated speed rpm	: 1100
Rated speed rpm	: 1195	+	

Pressure hPa : 440 rack travel mm : 11.40 : +- 0.20 Tolerance mm

Pressure hPa : 240 rack travel mm : 9.75 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 81.5 cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : +- 4.0

BREAKAWAY

Rack travel in mm : 11.20
Rated speed rpm : 1160
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 : + 0.50 Tolerance mm Del. quantity

cm3/1000 strokes : 130.0 cm3/1000 strokes : + 20.0

Check tolerance

: **←** 25.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 13.11.96 Test oil : ISO 4113

Combination No. : 0 402 076 769

Injection pump

Pump designation : PES6P100A320LS3319 EP type number : 0 412 006 707

Governor

Governer design. : RSV350...1300P5A588

Governer no. : 0 421 833 448

Cust. part No. : 1820888091

Customer—spec. information Customer : NAVISTAR Motor : DT-408 Power KW : 171.5

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 076

Inlet press. bar : 2.8

Overflow quantity

min. L/h : 260 Tolerance L/h : + 10.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5 Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 3.00 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.30

Check

tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 13.05 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 149.5

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed cm3/1000 strokes : 8.0	
	† rack tra
	+ Tolerand
Check tolerance	+ Rated sp
cm3/1000s. : 12.0	T rack tra
	Rated sp
Rack travel in mm : 5.60	I wared at
Tolerance mm : + 0.10	1
	+ LOW IDLE
(B) SETTING OF INJECTION PUMP	+
WITH GOVERNOR	+
	+ control
	+ position
GUIDE SLEEVE POSITION	+ tolerand
GOIDE STEENE LOSTLION	Testing:
Rated speed rpm : 800	I resume.
rated speed i piii	Rated sp
Rack travel in mm : 0.50	+ rack tra
Tolerance mm : + 0.20	Tolerand
	+
governor spring	+ Rated sp
pre-tension	+
click setting x : 3.75	+ CRT mm m
	+
PULL LASS SELECTION AT PULL LASS STOR	TODOUT O
FULL LOAD DELIVERY AT FULL LOAD STOP	+ TORQUE C
Rated speed rpm : 1300	Rated sp
Aneroid pressure	rack tra
hPa : 1200	+ Tolerand
Del. quantity	
Det. Quarisity	+
cm3/1000 strokes : 149.5	ļ
cm3/1000 strokes : 149.5 cm3/1000 strokes : +- 1.0	ANEROID/
cm3/1000 strokes : 149.5 cm3/1000 strokes : +- 1.0	ANEROID/ COMPENSA
<pre>cm3/1000 strokes : 149.5 cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0</pre>	
cm3/1000 strokes : 149.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000S. : + 3.0 Spreed	COMPENSA
<pre>cm3/1000 strokes : 149.5 cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0 Spreed cm3/1000 strokes : 8.0</pre>	
cm3/1000 strokes : 149.5 cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance	COMPENSA
<pre>cm3/1000 strokes : 149.5 cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0 Spreed cm3/1000 strokes : 8.0</pre>	COMPENSA SETTING Rated sp
cm3/1000 strokes : 149.5 cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance	SETTING Rated sp Pressure
cm3/1000 strokes : 149.5 cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance	COMPENSA SETTING Rated sp Pressure rack tra
<pre>cm3/1000 strokes : 149.5 cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0</pre>	SETTING Rated sp Pressure
cm3/1000 strokes : 149.5 cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance	SETTING Rated sp Pressure rack tra Toleranc
<pre>cm3/1000 strokes : 149.5 cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0</pre>	COMPENSA SETTING Rated sp Pressure rack tra
cm3/1000 strokes : 149.5 cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever position degree : 111.0	SETTING Rated sp Pressure rack tra Toleranc
cm3/1000 strokes : 149.5 cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever	COMPENSA SETTING Rated sp Pressure rack tra Toleranc MEASUREM Pressure Rated sp
cm3/1000 strokes : 149.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever position degree : 111.0 tolerance degree : + 6.0	COMPENSA SETTING Rated sp Pressure rack tra Toleranc MEASUREM Pressure Rated sp rack tra
cm3/1000 strokes : 149.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever position degree : 111.0	COMPENSA SETTING Rated sp Pressure rack tra Toleranc MEASUREM Pressure Rated sp
cm3/1000 strokes : 149.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever position degree : 111.0 tolerance degree : + 6.0 RATED SPEED	SETTING Rated sp Pressure rack tra Toleranc MEASUREM Pressure Rated sp rack tra Toleranc
cm3/1000 strokes : 149.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever position degree : 111.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 12.00	COMPENSA SETTING Rated sp Pressure rack tra Toleranc MEASUREM Pressure Rated sp rack tra
cm3/1000 strokes : 149.5 cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever position degree : 111.0 tolerance degree : +- 6.0 RATED SPEED rack travel mm : 12.00 Rated speed rpm : 1345	SETTING Rated sp Pressure rack tra Toleranc MEASUREM Pressure Rated sp rack tra Toleranc
cm3/1000 strokes : 149.5 cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever position degree : 111.0 tolerance degree : +- 6.0 RATED SPEED rack travel mm : 12.00	SETTING Rated sp Pressure rack tra Toleranc MEASUREM Pressure Rated sp rack tra Toleranc Rated sp
cm3/1000 strokes : 149.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever position degree : 111.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 12.00 Rated speed rpm : 1345 Tolerance 1/min : + 5	SETTING Rated sp Pressure rack tra Toleranc MEASUREM Pressure Rated sp rack tra Toleranc Rated sp
cm3/1000 strokes : 149.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever position degree : 111.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 12.00 Rated speed rpm : 1345	SETTING Rated sp Pressure rack tra Toleranc MEASUREM Pressure Rated sp rack tra Toleranc Rated sp

Tolerance 1/min	: +- 5
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : + 0.55 : 1500
rack travel mm Rated speed rpm	: 4.00 : 1410
LOW IDLE	
control lever position degree tolerance degree	: 71.0 : +- 6.0
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 350 : 5.60 : + 0.10
Rated speed rpm	: 100
CRT mm min.	: > 19.00
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1300 : 1200 : 13.05 : + 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	500 8.30 + 0.20
Rated speed rpm	: 1300
Pressure hPa rack travel mm Tolerance mm	: 710 : 11.80 : + 0.20

Pressure hPa : 320 rack travel mm : 9.35 Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -Rated speed rpm : 400

Del. quantity

cm3/1000 strokes : 74.5 cm3/1000 strokes : + 2.0

Check tolerance

cm3/1000s. : +- 4.0

BREAKAWAY

Rack travel in mm : 12.00
Rated speed rpm : 1345
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50

Del. quantity

cm3/1000 strokes : 135.0 cm3/1000 strokes : +- 20.0

Check tolerance

cm3/1000s. : \leftarrow 25.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 11.11.96 Test oil : ISO 4113

Combination No. : 0 402 076 770

Injection pump

Pump designation : PES6P110A320LS3318

: -1

EP type number : 0 412 016 749

Governor

Governer design. : RSV350...750P4A561

: -1

Governer no. : 0 421 833 451

Cust. part No. : 1823837092

Customer—spec. information
Customer : NAVISTAR
Motor : DT-531
Power KW : 224.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 076

Inlet press. bar : 2.8
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 3.00
Tolerance mm : + 0.05
Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5- 3- 6- 2-

: 4

Phasing : 0-60-120-180-240

: -300 Tolerance : +- 0.30

Check

tolerance °NW : + 0.50

BASIC SETTING

Rated speed rpm : 650

Rack travel in mm : 12.55 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 225.5

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : + 3.0

Spreed

cm3/1000 strokes	: 4.0	RATED SPEED
Check tolerance	I	RATED SPEED
cm3/1000s.	: 6.5	rack Eravel mm : 10.20
	1	Rated speed rpm : 750
Rated speed rpm	: 340	Tolerance 1/min : + 5
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	+	
	+	rack travel mm : 4.00
Rack travel in mm		Rated speed rpm : 800
Tolerance mm	: + 0.10 +	Tolerance 1/min : +- 5
Del. quantity	+	
cm3/1000 strokes		rack travel mm : 0.85
cm3/1000 strokes	: + 2.0	Tolerance mm : + 0.55
Check tolerance cm3/1000s.	: +- 4.5	Rated speed rpm : 900
Spreed	· · · 4.5	rack travel mm : 4.00
cm3/1000 strokes	: 8.0	Rated speed rpm : 805
Check tolerance	· • • • • • • • • • • • • • • • • • • •	hated speed (pill : 00)
cm3/1000s.	: 12.0	
	1	
	1	LOW IDLE
(B) SETTING OF IN	JECTION PUMP +	
WITH GOVERNOR	+	
	+	control lever
	+	position degree : 26.0
CUITAGE OF SECUE DOOR	7701	tolerance degree : +- 4.0
GUIDE SLEEVE POSI	110N	Taching
Rated speed rpm	: 800	Testing:
raced speed (pii	. 900	Rated speed rpm : 340
Rack travel in mm	: 0.50	rack travel mm : 5.20
Tolerance mm		Tolerance mm : + 0.10
, , , , , , , , , , , , , , , , , , , ,	+	
governor spring	+	Rated speed rpm : 100
pre-tension	+	
click setting x	: 4.00	CRT mm min. : > 19.00
	†	
FULL LOAD DELIVER	Y AT FULL LOAD STOP	TORQUE CONTROL
TOLL LONG PELLYCH	+	1011402 00111102
Rated speed rpm	: 650	Rated speed rpm : 650
Aneroid pressure	+	rack travel mm : 12.55
hPa	: - +	Tolerance mm : + 0.05
Del. quantity	+	
cm3/1000 strokes	: 225.5	
cm3/1000 strokes	: + 1.0 +	
Check tolerance	†	
cm3/1000s.	: ← 3.0 †	
Spreed cm3/1000 strokes	: 4.0	BREAKAWAY
Check tolerance	• 4.0	DUCHUMAL
cm3/1000s.	: 6.5	
(m2/10000)	. 0.5	Rack travel in mm: 10.20
	1	Rated speed rpm : 750
		Tolerance 1/min : + 5
CONTROL LEVER	+	
	+	
control lever	. /70	CTARTING FUEL OF THERE
position degree	÷ 47.0	STARTING FUEL DELIVERY
tolerance degree	: +- 4.0 +	

Rated speed rpm	:	100
rack travel mm	:	20.50
Tolerance mm	; +-	0.50
Del. quantity		
cm3/1000 strokes	•	145.0
cm3/1000 strokes	: +-	20.0
Check tolerance		
cm3/1000s.	: +-	25.0

LOW IDLE

Rated speed rpm Del. quantity	:		340
cm3/1000 strokes	:		35.0
cm3/1000 strokes	:	+-	2.0
Check tolerance			
cm3/1000s.	:	+-	4.5
Spreed			
cm3/1000 strokes	:		8.0
Check tolerance			
cm3/1000s.	:		12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 13.11.96 Test oil : ISO 4113

Combination No. : 0 402 076 772

Injection pump

Pump designation : PES6P100A320LS3342 EP type number : 0 412 006 710

Governor

Governer design. : RSV415...1100P8A593

Governer no. : 0 421 833 456

Cust. part No. : 1823921091

Customer-spec. information Customer : NAVISTAR Motor : DT-466 Power KW : 135.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 1 417 413 076

Inlet press. bar : Inlet press. bar : 2.8
Tolerance bar : +- 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5 bar

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 3.00 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.20 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 98.5

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

cm3/1000 strokes : 8.0

C02

Check tolerance cm3/1000s.	: 12.0	‡	Rated speed rpm	
Rack travel in mm Tolerance mm	5.50 : + 0.10	† † †	rack travel mm Rated speed rpm	
(B) SETTING OF IN	JECTION PUMP	† † †	LOW IDLE	
CUIDE OF FEMALES		‡	control lever position degree tolerance degree	
GUIDE SLEEVE POSI		Ŧ	Testing:	
Rated speed rpm Rack travel in mm Tolerance mm	: 0.50	† † † †	Rated speed rpm rack travel mm Tolerance mm	: 5.50
governor spring		Ŧ	Rated speed rpm	: 100
pre-tension click setting x	: 4.00	Ŧ	CRT mm min.	: > 19.00
FULL LOAD DELIVER	Y AT FULL LOAD STOP	Ŧ	TORQUE CONTROL	
Rated speed rpm Aneroid pressure hPa	: 1100 : 1200	Ŧ	Rated speed rpm rack travel mm Tolerance mm	
Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: 98.5 : + 1.0 : + 3.0	T	Rated speed rpm rack travel mm Tolerance mm	
Spreed cm3/1000 strokes Check tolerance cm3/1000S.	: 8.0 : 12.0	†	ANEROID/ALTITUDE COMPENSATOR TEST	
		1	SETTING	
control lever position degree tolerance degree		+++++++++++++++++++++++++++++++++++++++	Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1200 : 12.35 : + 0.20
RATED SPEED		‡	MEASUREMENT	
rack travel mm	: 10.20	1	Rated speed rpm	: 500
Rated speed rpm Tolerance 1/min		+	Pressure hPa rack travel mm Tolerance mm	: 420 : 11.50 : +- 0.20
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1190 : +- 5	+++++++++++++++++++++++++++++++++++++++	Pressure hPa rack travel mm Tolerance mm	: 210 : 9.70 : + 0.05
rack travel mm Tolerance mm	: 0.85 : +- 0.55	‡		

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa

800 Rated speed rpm

Del. quantity

cm3/1000 strokes : 127.5 cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : +- 4.0

Aneroid pressure

hPa 500 Rated speed rpm

Del. quantity cm3/1000 strokes : 82.0 2.0

cm3/1000 strokes : +-Check tolerance

cm3/1000s. 4.0

BREAKAWAY

Rack travel in mm : 10.20 Rated speed rpm : 1150 10.20 Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

100 Rated speed rpm : rack travel mm : 21.00 : +- 0.50 Tolerance mm

Del. quantity

cm3/1000 strokes : 153.0 cm3/1000 strokes : \leftarrow 20.0

Check tolerance

cm3/1000s. : +- 25.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 13.11.96 Test oil : ISO 4113

Combination No. : 0 402 076 773

Injection pump

Pump designation : PES6P100A320LS3342

EP type number : 0 412 006 710

Governor

Governer design. : RSV415...1100P8A595

Governer no. : 0 421 833 461

Cust. part No. : 1824625091

Customer-spec. information
Customer : NAVISTAR
Motor : DT-530
Power KW : 168.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 076

Inlet press. bar : 2.8 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

REMARKS

x inside diameter:

x length mm :

(A) INJECTION PUMP SETTING VALUES

3.0

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 3.00
Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance *NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 12.45
Tolerance mm: + 0.05

Del. quantity

cm3/1000 strokes : 120.0

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000S.

Spreed

cm3/1000 strokes : 8.0

8.0

: +- 3.0

CO5

Check tolerance : 12.0 Rack travel in mm : 5.80 Tolerance mm : +- 0.10 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm: 0.50 Tolerance mn: + 0.20 governor spring pre-tension click setting x: 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 120.0 cm3/1000 strokes : + 1.0 Check tolerance : ← 3.0 cm3/1000s. Spreed cm3/1000 strokes : 8.0 Check tolerance : cm3/1000s. 12.0 CONTROL LEVER control lever position degree : 107.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 11.40 Rated speed rpm : 1150 Tolerance 1/min : +-: 4.00 rack travel mm Rated speed rpm : 1200 Tolerance 1/min : + 5 rack travel mm 0.85 : **←** 0.55 Tolerance mm

Rated speed rpm : 1300 rack travel mm : 4.0 Rated speed rpm : 1205 4.00 LOW IDLE control lever position degree : 77.0 tolerance degree : + 6.0 Testing: Rated speed rpm : 415 rack travel mm : 5.80 : + 0.10 Tolerance mm Rated speed rpm : 100 CRT mm min. : > 19.00 TORQUE CONTROL : 1100 Rated speed rpm Rated speed rpm : 800 rack travel mm : 13.40 Tolerance mm : + 0.10 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 500 Pressure hPa : 1200 rack travel mm : 13.40 Tolerance mm : +- 0.05 MEASUREMENT

MEASUREMENT		
Rated speed rpm	:	500
Pressure hPa	:	510
rack travel mm	:	12.20
Tolerance mm	: +-	0.20
Pressure hPa	:	250
rack travel mm	:	10.05
Tolerance mm	: +-	0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa 800 Rated speed rpm :

Del. quantity cm3/1000 strokes : 146.5 cm3/1000 strokes : +- 2.0

Check tolerance cm3/1000s.: +- 4.0

Aneroid pressure

hPa 500 Rated speed rpm

Del. quantity

cm3/1000 strokes : 78.5 cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s.4.0

BREAKAWAY

Rack travel in mm: 11.40 Rated speed rpm : 1150 Tolerance 1/min : +-

STARTING FUEL DELIVERY

100 Rated speed rpm : rack travel mm : 20.50 Tolerance mm : + 0.50

Del. quantity

cm3/1000 strokes : 160.0 cm3/1000 strokes : + 20.0

Check tolerance

cm3/1000s. : **←** 25.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 13.11.96 Test oil : ISO 4113

Combination No. : 0 402 076 774

Injection pump

Pump designation : PES6P100A320LS3342 EP type number : 0 412 006 710

Governor

Governer design. : RSV415...1100P8A596

Governer no. : 0 421 833 462

Cust. part No. : 1824624091

Customer-spec. information
Customer : NAVISTAR
Motor : DT-530
Power KW : 187.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 076

Inlet press. bar : 2.8 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.30

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.55
Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 109.0

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. : +- 3.0

CIIIS/ 10005. . += 5.0

Spreed

cm3/1000 strokes : 8.0

CO8

cm3/1000s. : 12.0 Rack travel in mm : 5.20 Tolerance mm : +- 0.10	rack travel mm : 4.00 Rated speed rpm : 1205
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	LOW IDLE control lever position degree : 75.0
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50	tolerance degree : + 6.0 Testing: Rated speed rpm : 415 rack travel mm : 5.20
Tolerance mm : + 0.20 governor spring pre-tension	Tolerance mm : + 0.10 Rated speed rpm : 100
click setting x : 4.00	CRT man min. : > 19.00
FULL LOAD DELIVERY AT FULL LOAD STOP	TORQUE CONTROL
Rated speed rpm : 1100 Aneroid pressure hPa : 1200 Del. quantity	Rated speed rpm : 1100 rack travel mm : 11.55 Tolerance mm : + 0.05
cm3/1000 strokes : 109.0 cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0 Spreed	Rated speed rpm : 800 rack travel mm : 12.50 Tolerance mm : + 0.10
cm3/1000 strokes : 8.0 Check tolerance cm3/1000S. : 12.0	ANEROID/ALTITUDE COMPENSATOR TEST SETTING
	+
control Lever control lever position degree : 105.0 tolerance degree : +- 6.0 RATED SPEED	+ Rated speed rpm : 800 + Pressure hPa : 1200 + rack travel mm : 12.50 + Tolerance mm : + 0.20 - MEASUREMENT
rack travel mm : 10.50	Rated speed rpm : 800
Rated speed rpm : 1150 Tolerance 1/min : +- 5	Pressure hPa : 445 rack travel mm : 11.40 Tolerance mm : + 0.20
rack travel mm : 4.00 Rated speed rpm : 1200 Tolerance 1/min : +- 5	+ Pressure hPa : 230 + rack travel mm : 9.50 + Tolerance mm : + 0.05
rack travel mm : 0.85 Tolerance mm : +- 0.55	
c09	

Rated speed rpm :

1300

Check tolerance cm3/1000s.

: 12.0

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa 1200 Rated speed rpm : 800

Del. quantity

cm3/1000 strokes : 138.5 cm3/1000 strokes : +- 2.0

Check tolerance

: +- 4.0 cm3/1000s.

Aneroid pressure

hPa 500 Rated speed rpm

Del. quantity cm3/1000 strokes : 77.5 cm3/1000 strokes : \leftarrow 2.0

Check tolerance

cm3/1000s. : +- 4.0

BREAKAWAY

Rack travel in mm : 10.50 Rated speed rpm : 1150 10.50 Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 21.00 rack travel mm : : **←** 0.50 Tolerance mm

Del. quantity

cm3/1000 strokes : 153.0 cm3/1000 strokes : \leftarrow 20.0

Check tolerance

cm3/1000s. : +- 25.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : ISO 4113

Combination No. : 0 402 076 775

Injection pump

Pump designation : PES6P100A320LS3342 EP type number : 0 412 006 710

Governor

Governer design. : RSV415...1100P8A597

Governer no. : 0 421 833 463

Cust. part No. : 1824626091

Customer-spec. information Customer : NAVISTAR Motor : DT-530 Power KW : 153.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 076

Inlet press. bar : 2.8 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : + 1.0

3.00 Prestroke mm : +- 0.05 Tolerance mm Check

: + 0.10 tolerance mm

Rack travel in mm: 10.50 : **←** 1.50 Tolerance mm

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

: +- 0.30 Tolerance

Check

: **←** 0.75 tolerance *NW

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 11.55 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 104.5

cm3/1000 strokes : + 1.0

Check tolerance

: +- 3.0 cm3/1000s.

Spreed

cm3/1000 strokes : 8.0

Rated speed rpm : 1300 Check tolerance cm3/1000s. : 12.0 rack travel mm : 4.0 Rated speed rpm : 1205 4.00 Rack travel in mm: 5.60 Tolerance mm : +- 0.10 LOW IDLE (B) SETTING OF INJECTION PUMP WITH GOVERNOR control lever position degree : 74.0 tolerance degree : + 6.0 GUIDE SLEEVE POSITION Testing: Rated speed rpm : 800 Rated speed rpm : 415 rack travel mm : 5.60 Rack travel in mm : 0.50 Tolerance mm : + 0.20 : **←** 0.10 Tolerance mm Rated speed rpm : 100 governor spring pre-tension CRT mm min. : > 19.00 click setting x: 4.75 FULL LOAD DELIVERY AT FULL LOAD STOP TORQUE CONTROL 1100 Rated speed rpm : 1100 Rated speed rpm : rack travel mm : 11.55
Tolerance mm : + 0.05 Aneroid pressure 1200 hPa ç Del. quantity Rated speed rpm : 800 rack travel mm : 12.50 Tolerance mm : + 0.10 cm3/1000 strokes : 104.5 cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0 Spreed cm3/1000 strokes : 8.0 ANEROID/ALTITUDE Check tolerance cm3/1000s. : 12.0 COMPENSATOR TEST SETTING Rated speed rpm : 800 CONTROL LEVER Pressure hPa : 1200 control lever rack travel mm : 12.55 position degree : 104.0 Tolerance mm : + 0.10 tolerance degree : + 6.0 **MEASUREMENT** RATED SPEED Rated speed rpm : 800 rack travel mm : 10.50 Rated speed rpm : 1150 Pressure hPa : 435 rack travel mm : 11.60 Tolerance 1/min : + 5 : + 0.20 Tolerance mm rack travel mm : 4.00 Rated speed rpm : 1200 4.00 Pressure hPa : 250 rack travel mm : 10.05 Tolerance mm : \leftarrow 0.05 Tolerance 1/min : + 5 rack travel mm : 0.85
Tolerance mm : + 0.55

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa 800 Rated speed rpm :

Del. quantity

cm3/1000 strokes : 131.0 cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : +- 4.0

Aneroid pressure

hPa 500 Rated speed rpm

Del. quantity

cm3/1000 strokes : 78.5 cm3/1000 strokes : \leftarrow 2.0

Check tolerance

cm3/1000s. : +- 4.0

BREAKAWAY

Rack travel in mm: 10.50 Rated speed rpm : 1150 Tolerance 1/min : + 5

STARTING FUEL DELIVERY

100 Rated speed rpm rack travel mm : 20.50 : +- 0.50 Tolerance mm

Del. quantity

cm3/1000 strokes : 150.0 cm3/1000 strokes : + 20.0

Check tolerance

cm3/1000s. : **←** 25.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 11.11.96 : ISO 4113

Combination No. : 0 402 736 813

Injection pump

Pump designation : PES6P110A120RS7214

EP type number : 0 412 716 805

Governor

Governer design. : RQV350...1100PA964

: -5K

Governer no.

: 0 421 815 257

Cust. part No. : 3921772

Customer—spec. information Customer : CDC : 6CTA-A Motor Power KW : 187.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 ഫ്ര x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

: **←** 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Start of delivery blocking

*NW before FB : 5.50 : + 0.10

Tolerance Check

tolerance *NW : +- 0.23

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 14.55 : **←** 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 187.5

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 4.0

Spreed

C14

cm3/1000 strokes	: 5.0	- cm3/1000 strokes - Check tolerance	: +- 1.0
Check tolerance cm3/1000s.	: 9.0	- cm3/1000s. - Spreed	: +- 4.0
Rated speed rpm	+	- cm3/1000 strokes - Check tolerance	: 5.0
	-	- cm3/1000s. -	: 9.0
Rack travel in mm Tolerance mm		•	
Del. quantity	. 1- 0.10	- CONTROL LEVER	
cm3/1000 strokes			
cm3/1000 strokes Check tolerance	•	- control lever	. 110 0
cm3/1000s. Spreed		- position degree - tolerance degree -	
cm3/1000 strokes Check tolerance		RATED SPEED	
cm3/1000s.		- rack travel mm	: 13.50
	1	- Rated speed rpm	: 1150
(B) SETTING OF IN	JECTTON DIME	- Tolerance 1/min	: +- 5
WITH GOVERNOR	3ECTION F5MF 7	- - rack travel mm	: 4.00
	+	- Rated speed rpm	: 1305
GUIDE SLEEVE TRAV		- Tolerance 1/min	: + 15
GOIDE STEENE IKAN		- - rack travel mm	: 0.50
Rated speed rpm	: 350	- Tolerance mm	: 0.50
guide sleeve	. 100	- Rated speed rpm	: 1400
travel mm	: 1.90	•	
Tolerance mm	· +- 0.30 +	•	
Tolerance mm	: + 0.10	•	
Rated speed rpm	+	- LOW IDLE	
Rated speed rpm guide sleeve	: 1000	- LOW IDLE	
Rated speed rpm	: 1000 : 8.20	· control lever	
Rated speed rpm guide sleeve travel mm Tolerance mm	: 1000 : 8.20 : ← 0.10	- control lever - position degree	: 67.0
Rated speed rpm guide sleeve travel mm Tolerance mm	: 1000 : 8.20 : ← 0.10	· control lever	: 67.0 : ← 4.0
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 1000 : 8.20 : + 0.10 : 450	- control lever - position degree	: 67.0 : + 4.0
Rated speed rpm guide sleeve travel mm Tolerance mm	: 1000 : 8.20 : + 0.10 : 450	control lever position degree tolerance degree Testing:	: ← 4.0
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1000 : 8.20 : + 0.10 : 450 : 3.30 : + 0.20	control lever position degree tolerance degree Testing: Rated speed rpm	: ← 4.0 : 350
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1000 : 8.20 : → 0.10 : 450 : 3.30 : → 0.20 : 600	control lever position degree tolerance degree Testing: Rated speed rpm	: ← 4.0 : 350
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1000 : 8.20 : → 0.10 : 450 : 3.30 : → 0.20 : 600	control lever position degree tolerance degree Testing: Rated speed rpm rack travel mm Tolerance mm	: + 4.0 : 350 : 5.60 : + 0.10
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1000 : 8.20 : → 0.10 : 450 : 3.30 : → 0.20 : 600	control lever position degree tolerance degree Testing: Rated speed rpm	: + 4.0 : 350 : 5.60 : + 0.10
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm Rated speed rpm	: 1000 : 8.20 : → 0.10 : 450 : 3.30 : → 0.20 : 600 : 5.30 : → 0.20 : 1200	control lever position degree tolerance degree Testing: Rated speed rpm rack travel mm Tolerance mm	: ← 4.0 : 350 : 5.60 : ← 0.10 : 275
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm Rated speed rpm	: 1000 : 8.20 : → 0.10 : 450 : 3.30 : → 0.20 : 600 : 5.30 : → 0.20 : 1200	control lever position degree tolerance degree Testing: Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: ← 4.0 : 350 : 5.60 : ← 0.10 : 275 : > 7.20
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1000 : 8.20 : → 0.10 : 450 : 3.30 : → 0.20 : 600 : 5.30 : → 0.20 : 1200	control lever position degree tolerance degree Testing: Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: ← 4.0 : 350 : 5.60 : ← 0.10 : 275 : > 7.20
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm Rated speed rpm Rated speed rpm	: 1000 : 8.20 : → 0.10 : 450 : 3.30 : → 0.20 : 600 : 5.30 : → 0.20 : 1200	control lever position degree tolerance degree Testing: Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: ← 4.0 : 350 : 5.60 : ← 0.10 : 275 : > 7.20
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm	: 1000 : 8.20 : → 0.10 : 450 : 3.30 : → 0.20 : 600 : 5.30 : → 0.20 : 1200	control lever position degree tolerance degree Testing: Rated speed rpm rack travel mm Tolerance mm Rated speed rpm CRT mm min. Rated speed rpm	: + 4.0 : 350 : 5.60 : + 0.10 : 275 : > 7.20 : 425
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm	: 1000 : 8.20 : + 0.10 : 450 : 3.30 : + 0.20 : 600 : 5.30 : + 0.20 : 1200 : 1200 : 9.80 : + 0.20	control lever position degree tolerance degree Testing: Rated speed rpm rack travel mm Tolerance mm Rated speed rpm CRT mm min. Rated speed rpm TORQUE CONTROL Rated speed rpm	: + 4.0 : 350 : 5.60 : + 0.10 : 275 : > 7.20 : 425 : 1100
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm Tolerance mm Tolerance mm	: 1000 : 8.20 : + 0.10 : 450 : 3.30 : + 0.20 : 600 : 5.30 : + 0.20 : 1200 : 1200 : 1200 : 7 AT FULL LOAD STOP : 1100	control lever position degree tolerance degree Testing: Rated speed rpm rack travel mm Tolerance mm Rated speed rpm CRT mm min. Rated speed rpm	: ← 4.0 : 350 : 5.60 : ← 0.10 : 275 : > 7.20 : 425 : 1100 : 14.55
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Full LOAD DELIVER' Rated speed rpm Aneroid pressure hPa	: 1000 : 8.20 : + 0.10 : 450 : 3.30 : + 0.20 : 600 : 5.30 : + 0.20 : 1200 : 1200 : 9.80 : + 0.20 Y AT FULL LOAD STOP : 1100	control lever position degree tolerance degree Testing: Rated speed rpm rack travel mm Tolerance mm Rated speed rpm CRT mm min. Rated speed rpm TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: + 4.0 : 350 : 5.60 : + 0.10 : 275 : > 7.20 : 425 : 1100 : 14.55 : + 0.05
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm Tolerance mm Tolerance mm	: 1000 : 8.20 : + 0.10 : 450 : 3.30 : + 0.20 : 600 : 5.30 : + 0.20 : 1200 : 1200 : 9.80 : + 0.20 Y AT FULL LOAD STOP : 1100 : 1500	control lever position degree tolerance degree Testing: Rated speed rpm rack travel mm Tolerance mm Rated speed rpm CRT mm min. Rated speed rpm TORQUE CONTROL Rated speed rpm rack travel mm	: + 4.0 : 350 : 5.60 : + 0.10 : 275 : > 7.20 : 425 : 1100 : 14.55 : + 0.05 : 650

Tolerance mm Rated speed rpm rack travel mm Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST		Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 93.0 cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.0 BREAKAWAY
SETTING		<u> </u>
Rated speed rpm Pressure hPa MEASUREMENT	: 1100 : 1500	Rack travel in mm: 13.50 Rated speed rpm: 1150 Tolerance 1/min: + 5
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: 7.90	STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 11.30
Rated speed rpm	: 1100	Tolerance mm : + 0.50 Del. quantity
Pressure hPa rack travel mm Tolerance mm	: 845 : 13.80 : ← 0.20	cm3/1000 strokes : 155.0 cm3/1000 strokes : +- 20.0 Check tolerance cm3/1000s. : +- 25.0
Pressure hPa rack travel mm Tolerance mm	: 335 : 10.15 : + 0.05	
START CUT-OUT		LOW IDLE
Rated speed rpm Rated speed rpm Check speed 1/min		Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 30.0 cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 5.0
Check		Spreed
speed 1/min	: < 300	+ cm3/1000 strokes : 8.0 + Check tolerance - cm3/1000s. : 12.0
FUEL DELIVERY CHA	RACTERISTICS	1 12.0
Aneroid pressure hPa Rated speed rpm	: 1500 : 650	
Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: 203.5 : + 3.0 : + 6.0	End of test specification sheet
Spreed cm3/1000 strokes	: 8.0	+
Check tolerance cm3/1000s.	: 12.0	‡

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 18.11.96 Edition Test oil : 18.11.96

Combination No. : 0 402 034 700

Injection pump

Pump designation : PES4P120B120RS3379 EP type number : 0 412 024 702

Governor

Governer design. : RQV475...1100PA1314K

Governer no. : 0 421 815 543

Cust. part No. : 3928601

Customer-spec. information Customer : CDC Motor : 4BTA-A 93.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

Tolerance °C temp. °C : +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : +- 1.0

Prestroke mm : 3.60 Tolerance mm : + 0.05 Check : + 0.10 tolerance mm

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270 Tolerance : ← 0.30

Check

tolerance °NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 6.50 : +- 0.50 Tolerance

Check

tolerance °NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 11.45 Tolerance mm : \leftarrow 0.05

Del. quantity cm3/1000 strokes : 140.5

C17

	1
cm3/1000 strokes : +- 1.0	
	+ FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance cm3/1000s. : +- 4.0	t Dated around are 1100
cm3/1000s. : +- 4.0	+ Rated speed rpm : 1100 - Aneroid pressure
Spreed	hPa : 1200
cm3/1000 strokes : 8.0	+ Del. quantity
	+ cm3/1000 strokes : 140.5
Check tolerance	+ cm3/1000 strokes : + 1.0
cm3/1000s. : 12.0	+ Check tolerance + cm3/1000s. : +- 4.0
Rated speed rpm : 475	+ cm3/1000s. : +- 4.0 + Spreed
nated speed (pill : 473	cm3/1000 strokes : 8.0
	- Check tolerance
Rack travel in mm: 5.70	+ cm3/1000s. : 12.0
Tolerance mm : + 0.10	†
Del. quantity	†
cm3/1000 strokes : 26.5 cm3/1000 strokes : +- 3.0	CONTROL LEVER
Check tolerance	T CONTINUE LEVER
cm3/1000s. : +- 5.0	+ control lever
Spreed	position degree : 113.0
cm3/1000 strokes : 4.0	tolerance degree : +- 4.0
Check tolerance	TATES COSES
cm3/1000s. : 8.0	RATED SPEED
	rack travel mm : 10.40
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 1155
WITH GOVERNOR	+ Tolerance 1/min : + 15
	† 1
GUIDE SLEEVE TRAVEL	- + rack travel mm : 6.70 + Rated speed rpm : 1230
GOIDE SLEEVE TRAVEL	+ Tolerance 1/min : + 5
Rated speed rpm : 475	+ rocer and or round
guide sleeve	+ rack travel mm : 0.50
travel mm : 1.59	+ Tolerance mm : $+$ 0.50
Tolerance mm : +- 0.20	+ Rated speed rpm : 1350
Rated speed rpm : 1163	1
guide sleeve	
travel mm : 7.66	LOW IDLE
Tolerance mm : +- 0.15	+
	†
Rated speed rpm : 931	t control lever
guide sleeve travel mm : 5.89	<pre>position degree : 70.0 tolerance degree : +- 4.0</pre>
Tolerance mm : +- 0.25	toter ante degree 4.0
TO SECURITION TO SECURE	+ Testing:
Rated speed rpm : 670	+
guide sleeve	Rated speed rpm : 475
travel mm : 3.53	rack travel mm : 5.70
Tolerance mm : + 0.25	Tolerance mm : +- 0.10
Rated speed rpm : 1660	Rated speed rpm : 400
guide steeve	- Control of the cont
travel mm : 13.50	+ CRT mm min. :> 6.80
Tolerance mm : + 0.50	†
	Rated speed rpm : 550
	т

TORQUE CONTROL		
Rated speed rpm rack travel mm Tolerance mm	: 1100 : 11.45 : ← 0.05	
Rated speed rpm rack travel mm Tolerance mm	: 750 : 11.30 : + 0.20	
Rated speed rpm rack travel mm Tolerance mm	: 550 : 10.90 : ← 0.20	
ANEROID/ALTITUDE COMPENSATOR TEST		
SETTING		
Rated speed rpm Pressure hPa	: 1100 : 1200	
MEASUREMENT		
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 1100 : 9.60 : + 0.20	
Rated speed rpm	: 1100	
Pressure hPa rack travel mm Tolerance mm	: 765 : 11.00 : + 0.20	
Pressure hPa rack travel mm Tolerance mm	: 600 : 10.00 : + 0.20	
START CUT-OUT		
Rated speed rpm Rated speed rpm	: > 100 : < 415	
Check speed 1/min Check	: > 80	
speed 1/min	: < 425	
FUEL DELIVERY CHARACTERISTICS		
FUEL DELIVERY CHA	RACTERISTICS	

Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: 144.5 : + 3.0 : + 6.0 : 8.0 : 12.0 : 107.0 : + 1.0 : + 3.0
BREAKAWAY	
Rack travel in mm Rated speed rpm Tolerance 1/min	
STARTING FUEL DELI	
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: 100 : 21.00 : ← 0.50 : ← 0.50 : ← 20.0 : ← 25.0
LOW IDLE	
Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance cm3/1000s.	: 475 : 26.5 : ← 3.0 : ← 5.0 : 4.0 : 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 19.11.96 Edition Test oil : ISO 4113

Combination No. : 0 402 736 913

Injection pump

Pump designation : PES6P120A120RS7369 EP type number : 0 412 726 935

Governor

Governer design. : RQV400...1400PA1211

: -1K

Governer no. : 0 421 815 530

Cust. part No. : 3931538

Customer-spec. information Customer : CDC Motor : 6BT/ : 6BTA-A motor Power KW : 160.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance $^{\circ}$ C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 3.00Tolerance mm : $\leftarrow 0.05$

Check

tolerance mm : ← 0.10

Rack travel in mm: 12.00 : + 0.50 Tolerance mm

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

: + 0.30 Tolerance

Check

tolerance °NW : + 0.75

Start of delivery blocking

*NW after s.o.d. : 6.75 Tolerance : + 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm: 14.45 Tolerance mm: $\leftarrow 0.05$

	+ Tolerance mm : + 0.25
Del. quantity	+
cm3/1000 strokes : 180.0	+ Rated speed rpm : 1000
cm3/1000 strokes : + 1.0	+ guide sleeve + travel mm : 5.53
cm3/1000 strokes : + 1.0	travel mm : 5.53 Tolerance mm : + 0.25
Check tolerance	Total de dall . 1 = 0.25
cm3/1000s. : +- 4.0	Rated speed rpm : 2130
	+ guide sleeve
Spreed	travel mm : 13.50
cm3/1000 strokes : 8.0	+ Tolerance mm : + 0.50
Check tolerance	İ
cm3/1000s. : 13.0	FULL LOAD DELIVERY AT FULL LOAD STOP
1010	+ OLL LOND DELLER NI FOLL COND O O
Rated speed rpm : 420	Rated speed rpm : 1300
, ·	+ Aneroid pressure
	+ hPa : 1500
Rack travel in mm: 6.10	+ Del. quantity
Tolerance mm : + 0.20 Del. quantity	+ cm3/1000 strokes : 180.0 + cm3/1000 strokes : ← 1.0
cm3/1000 strokes : 16.5	Check tolerance
cm3/1000 strokes : +- 3.0	+ cm3/1000s. : +- 4.0
Check tolerance	Spreed
cm3/1000s. : $+-$ 5.0	+ cm3/1000 strokes : 8.0
Spreed	+ Check tolerance
cm3/1000 strokes : 3.0 Check tolerance	+ cm3/1000s. : 13.0
cm3/1000s. : 7.0	I
1.07 (00001	
	CONTROL LEVER
(B) SETTING OF INJECTION PUMP	}
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever
	control lever position degree : 117.0
WITH GOVERNOR	control lever
	control lever position degree : 117.0
GUIDE SLEEVE TRAVEL Rated speed rpm : 400	control lever position degree : 117.0 tolerance degree : + 6.0 RATED SPEED
GUIDE SLEEVE TRAVEL Rated speed rpm : 400 guide sleeve	control lever position degree : 117.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 13.40
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 400 guide sleeve travel mm : 2.01	control lever position degree : 117.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 13.40 Rated speed rpm : 1450
GUIDE SLEEVE TRAVEL Rated speed rpm : 400 guide sleeve	control lever position degree : 117.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 13.40
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 400 guide sleeve travel mm : 2.01 Tolerance mm : + 0.25	control lever position degree : 117.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 13.40 Rated speed rpm : 1450 Tolerance 1/min : + 25
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 400 guide sleeve travel mm : 2.01 Tolerance mm : + 0.25 Rated speed rpm : 1410 guide sleeve	control lever position degree : 117.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 13.40 Rated speed rpm : 1450 Tolerance 1/min : + 25 rack travel mm : 5.50 Rated speed rpm : 1650
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 400 guide sleeve travel mm : 2.01 Tolerance mm : + 0.25 Rated speed rpm : 1410 guide sleeve travel mm : 8.73	control lever position degree : 117.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 13.40 Rated speed rpm : 1450 Tolerance 1/min : + 25 rack travel mm : 5.50
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 400 guide sleeve travel mm : 2.01 Tolerance mm : + 0.25 Rated speed rpm : 1410 guide sleeve	control lever position degree : 117.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 13.40 Rated speed rpm : 1450 Tolerance 1/min : + 25 rack travel mm : 5.50 Rated speed rpm : 1650 Tolerance 1/min : + 5
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 400 guide sleeve travel mm : 2.01 Tolerance mm : + 0.25 Rated speed rpm : 1410 guide sleeve travel mm : 8.73 Tolerance mm : + 0.25	control lever position degree : 117.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 13.40 Rated speed rpm : 1450 Tolerance 1/min : + 25 rack travel mm : 5.50 Rated speed rpm : 1650 Tolerance 1/min : + 5 rack travel mm : 0.50
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 400 guide sleeve travel mm : 2.01 Tolerance mm : + 0.25 Rated speed rpm : 1410 guide sleeve travel mm : 8.73 Tolerance mm : + 0.25 Rated speed rpm : 1488	control lever position degree : 117.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 13.40 Rated speed rpm : 1450 Tolerance 1/min : + 25 rack travel mm : 5.50 Rated speed rpm : 1650 Tolerance 1/min : + 5 rack travel mm : 0.50 Tolerance mm : 0.50 Tolerance mm : + 0.50
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 400 guide sleeve travel mm : 2.01 Tolerance mm : + 0.25 Rated speed rpm : 1410 guide sleeve travel mm : 8.73 Tolerance mm : + 0.25 Rated speed rpm : 1488 guide sleeve	control lever position degree : 117.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 13.40 Rated speed rpm : 1450 Tolerance 1/min : + 25 rack travel mm : 5.50 Rated speed rpm : 1650 Tolerance 1/min : + 5 rack travel mm : 0.50
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 400 guide sleeve travel mm : 2.01 Tolerance mm : + 0.25 Rated speed rpm : 1410 guide sleeve travel mm : 8.73 Tolerance mm : + 0.25 Rated speed rpm : 1488	control lever position degree : 117.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 13.40 Rated speed rpm : 1450 Tolerance 1/min : + 25 rack travel mm : 5.50 Rated speed rpm : 1650 Tolerance 1/min : + 5 rack travel mm : 0.50 Tolerance mm : 0.50 Tolerance mm : + 0.50
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 400 guide sleeve travel mm : 2.01 Tolerance mm : + 0.25 Rated speed rpm : 1410 guide sleeve travel mm : 8.73 Tolerance mm : + 0.25 Rated speed rpm : 1488 guide sleeve travel mm : 9.53 Tolerance mm : 9.53 Tolerance mm : + 0.25	control lever position degree : 117.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 13.40 Rated speed rpm : 1450 Tolerance 1/min : + 25 rack travel mm : 5.50 Rated speed rpm : 1650 Tolerance 1/min : + 5 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1850
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 400 guide sleeve travel mm : 2.01 Tolerance mm : + 0.25 Rated speed rpm : 1410 guide sleeve travel mm : 8.73 Tolerance mm : + 0.25 Rated speed rpm : 1488 guide sleeve travel mm : 9.53 Tolerance mm : + 0.25 Rated speed rpm : 462	control lever position degree : 117.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 13.40 Rated speed rpm : 1450 Tolerance 1/min : + 25 rack travel mm : 5.50 Rated speed rpm : 1650 Tolerance 1/min : + 5 rack travel mm : 0.50 Tolerance mm : 0.50 Tolerance mm : + 0.50
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 400 guide sleeve travel mm : 2.01 Tolerance mm : + 0.25 Rated speed rpm : 1410 guide sleeve travel mm : 8.73 Tolerance mm : + 0.25 Rated speed rpm : 1488 guide sleeve travel mm : 9.53 Tolerance mm : + 0.25 Rated speed rpm : 462 guide sleeve guide sleeve	control lever position degree : 117.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 13.40 Rated speed rpm : 1450 Tolerance 1/min : + 25 rack travel mm : 5.50 Rated speed rpm : 1650 Tolerance 1/min : + 5 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1850
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 400 guide sleeve travel mm : 2.01 Tolerance mm : + 0.25 Rated speed rpm : 1410 guide sleeve travel mm : 8.73 Tolerance mm : + 0.25 Rated speed rpm : 1488 guide sleeve travel mm : 9.53 Tolerance mm : + 0.25 Rated speed rpm : 462 guide sleeve travel mm : 2.91	control lever position degree : 117.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 13.40 Rated speed rpm : 1450 Tolerance 1/min : + 25 rack travel mm : 5.50 Rated speed rpm : 1650 Tolerance 1/min : + 5 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1850 LOW IDLE
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 400 guide sleeve travel mm : 2.01 Tolerance mm : + 0.25 Rated speed rpm : 1410 guide sleeve travel mm : 8.73 Tolerance mm : + 0.25 Rated speed rpm : 1488 guide sleeve travel mm : 9.53 Tolerance mm : + 0.25 Rated speed rpm : 462 guide sleeve guide sleeve	control lever position degree : 117.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 13.40 Rated speed rpm : 1450 Tolerance 1/min : + 25 rack travel mm : 5.50 Rated speed rpm : 1650 Tolerance 1/min : + 5 rack travel mm : 0.50 Tolerance mm : 0.50 Rated speed rpm : 1850 LOW IDLE control lever
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 400 guide sleeve travel mm : 2.01 Tolerance mm : + 0.25 Rated speed rpm : 1410 guide sleeve travel mm : 8.73 Tolerance mm : + 0.25 Rated speed rpm : 1488 guide sleeve travel mm : 9.53 Tolerance mm : + 0.25 Rated speed rpm : 462 guide sleeve travel mm : 2.91 Tolerance mm : + 0.25	control lever position degree : 117.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 13.40 Rated speed rpm : 1450 Tolerance 1/min : + 25 rack travel mm : 5.50 Rated speed rpm : 1650 Tolerance 1/min : + 5 rack travel mm : 0.50 Tolerance mm : 0.50 Rated speed rpm : 1850 LOW IDLE control lever position degree : 67.0
GUIDE SLEEVE TRAVEL Rated speed rpm : 400 guide sleeve travel mm : 2.01 Tolerance mm : + 0.25 Rated speed rpm : 1410 guide sleeve travel mm : 8.73 Tolerance mm : + 0.25 Rated speed rpm : 1488 guide sleeve travel mm : 9.53 Tolerance mm : + 0.25 Rated speed rpm : 462 guide sleeve travel mm : 2.91 Tolerance mm : + 0.25	control lever position degree : 117.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 13.40 Rated speed rpm : 1450 Tolerance 1/min : + 25 rack travel mm : 5.50 Rated speed rpm : 1650 Tolerance 1/min : + 5 rack travel mm : 0.50 Tolerance mm : 0.50 Rated speed rpm : 1850 LOW IDLE control lever position degree : 67.0

.	100	+ Check
Rated speed rpm	: 420	+ speed 1/min : > 80
rack travel mm		+ Check
Tolerance mm	: +- 0.20	+ speed 1/min : < 350
Rated speed rpm	: 300	FUEL DELIVERY CHARACTERISTICS
CRT mm min.	: > 8.70	+
~	405	+ Aneroid pressure
Rated speed rpm	: 425	hPa : 1500
		Rated speed rpm : 800
TORQUE CONTROL		Del. quantity
TONGOE CONTINOL		+ cm3/1000 strokes : 118.0 + cm3/1000 strokes : + 3.0
Rated speed rpm	1300	Check tolerance
rack travel mm	• 14 45	+ cm3/1000s. : +- 6.0
Tolerance mm	+ 0.05	Spreed
TOTAL GITCE HAN	0.03	+ cm3/1000 strokes : 8.0
Rated speed rpm	: 800	- Check tolerance
rack travel mm	: 11.80	+ cm3/1000s. : 13.0
rack travel mm Tolerance mm	: + 0.20	10.00
· waw with the		Aneroid pressure
Rated speed rpm	: 1100	+ hPa : -
rack travel mm	: 13.30	Rated speed rpm : 1300
Tolerance mm		+ Del. quantity
		+ cm3/1000 strokes : 79.5
ANEROID/ALTITUDE		+ Check tolerance
COMPENSATOR TEST		$+$ cm3/1000s. \div 4.0
		†
SETTING		BREAKAWAY
02772110		J. C.
Rated speed rpm	: 1300	1
Pressure hPa	: 1500	+ Rack travel in mm : 13.40
		Rated speed rpm : 1450
MEASUREMENT		+ Tolerance 1/min : +- 25
		+
Pressure hPa	: -	†
Rated speed rpm	: 1300	
rack travel mm	9.50	+ STARTING FUEL DELIVERY
Tolerance mm	: ← 0.20	004044 100
Datad award and	. 1700	+ Rated speed rpm : 100 + rack travel mm : 12.80
Rated speed rpm	: 1300	+ rack travel mm : 12.80 + Tolerance mm : + 0.50
Pressure hPa	: 965	+ Del. quantity
rack travel mm	: 905	+ cm3/1000 strokes : 157.0
Tolerance mm	: + 0.30	- cm3/1000 strokes : +- 20.0
IOCEI GILCE IMII	0.50	+ Check tolerance
Pressure hPa	: 390	cm3/1000s. : + 25.0
rack travel mm	: 10.80	
Tolerance mm	: ← 0.20	+
. + + - : : + + : : : : : : : : : : :		+
START CUT-OUT		LOW IDLE
Pated enged nom	: > 100	Rated speed rpm : 420
Rated speed rpm Rated speed rpm		+ Del. quantity
varen sheen thii	• • 540	- cm3/1000 strokes : 16.5
		- cm3/1000 strokes : + 3.0
		1 0110/ 1000 301 0/CS 1 1 3.0

Check tolerance cm3/1000s. : +- 5.0

Spreed cm3/1000 strokes : 3.0

Check tolerance cm3/1000s. 7.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 19.11.96 : ISO 4113 Test oil

Combination No. : 0 402 746 615

Injection pump

Pump designation : PES6P120A320RS7419

EP type number : 0 412 726 961

Governor

Governer design. : RQV300...1250PA1289K Governer no. : 0 421 815 520

Cust. part No. : 386 6800

Customer-spec. information Customer : CDC Motor : 6CTA Power KW : 249.5

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : \leftarrow 0.1

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : : +- 0.05 Tolerance mm

Check

: + 0.10 tolerance mm

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.30

Check

tolerance *NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 12.25

Tolerance : \leftarrow 0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 12.60 Tolerance mm : + 0.05

		Tolerance mm	: +- 0.50
Del. quantity	+		
cm3/1000 strokes :	203.5		
	<u></u>	FULL LOAD DELIVERY	AT FULL LOAD STOP
cm3/1000 strokes :	+ 1.0 +		
	+	Rated speed rpm	: 1250
Check tolerance		Aneroid pressure	
cm3/1000s. :	+ 4.0		: 1200
	1	Del. quantity	, , , , , , , , , , , , , , , , , , , ,
Spreed		cm3/1000 strokes	: 203.5
cm3/1000 strokes :	8.0		· + 1.0
CIBY (OCC STICKES :	1	Check tolerance	
Check tolerance			: + 4.0
	12.0		4.0
cm3/1000s. :	12.0	Spreed	2.0
			: 8.0
Rated speed rpm :	300 +	Check tolerance	
	+	cm3/1000s.	: 12.0
	+		
Rack travel in mm :			
Tolerance mm :	+ 0.20 +		
Del. quantity	}	CONTROL LEVER	
cm3/1000 strokes :	32.5		
cm3/1000 strokes :		control lever	
Check tolerance	1	position degree	: 117.0
	+ 5.0 ↓		+- 4.0
Spreed	1	totti dine degi ee	
cm3/1000 strokes :	5.0	RATED SPEED	
Check tolerance	7.0	RATED SPEED	
	8.0		11 (0
cm3/1000s. :	0.0	rack travel mm	: 11.60
	†	Rated speed rpm	: 1320
•-•		Tolerance 1/min	: +- 5
(B) SETTING OF INJEC	TION PUMP +		
WITH GOVERNOR	+	rack travel mm	: 4.00
	+	Rated speed rpm	: 1470
		Talamana 1/min	: +- 15
	7	Tolerance 1/min	, T 12
GUIDE SLEEVE TRAVEL	T	ioterance i/min	(1)
GUIDE SLEEVE TRAVEL	Ī	rack travel mm	0.50
	300	rack travel mm	
Rated speed rpm :	300	rack travel mm Tolerance mm	0.50 + 0.50
Rated speed rpm : guide sleeve	+	rack travel mm Tolerance mm	0.50 + 0.50
Rated speed rpm : guide sleeve travel mm :	1.29	rack travel mm Tolerance mm	0.50 + 0.50
Rated speed rpm : guide sleeve travel mm :	+	rack travel mm Tolerance mm	0.50 + 0.50
Rated speed rpm : guide sleeve travel mm : Tolerance mm :	1.29 + 0.20	rack travel mm Tolerance mm Rated speed rpm	0.50 + 0.50
Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm :	1.29	rack travel mm Tolerance mm	0.50 + 0.50
Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve	1.29 + 0.20 1372	rack travel mm Tolerance mm Rated speed rpm	0.50 + 0.50
Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm :	1.29 + 0.20 1372 9.86	rack travel mm Tolerance mm Rated speed rpm	0.50 + 0.50
Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm :	1.29 + 0.20 1372	rack travel mm Tolerance mm Rated speed rpm LOW IDLE control lever	0.50 + 0.50 1575
Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Tolerance mm :	1.29 + 0.20 1372 9.86 + 0.15	rack travel mm Tolerance mm Rated speed rpm LOW IDLE control lever position degree	0.50 + 0.50 1575
Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : Rated speed rpm :	1.29 + 0.20 1372 9.86	rack travel mm Tolerance mm Rated speed rpm LOW IDLE control lever	0.50 + 0.50 1575
Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve : guide sleeve	1.29 + 0.20 1372 9.86 + 0.15 917	rack travel mm Tolerance mm Rated speed rpm LOW IDLE control lever position degree tolerance degree	0.50 + 0.50 1575
Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : guide sleeve travel mm :	1.29 + 0.20 1372 9.86 + 0.15 917 6.76	rack travel mm Tolerance mm Rated speed rpm LOW IDLE control lever position degree	0.50 + 0.50 1575
Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : guide sleeve travel mm :	1.29 + 0.20 1372 9.86 + 0.15 917	rack travel mm Tolerance mm Rated speed rpm LOW IDLE control lever position degree tolerance degree Testing:	75.0 + 4.0
Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : guide sleeve travel mm :	1.29 + 0.20 1372 9.86 + 0.15 917 6.76 + 0.25	rack travel mm Tolerance mm Rated speed rpm LOW IDLE control lever position degree tolerance degree Testing: Rated speed rpm	75.0 +- 4.0
Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : guide sleeve travel mm :	1.29 + 0.20 1372 9.86 + 0.15 917 6.76	rack travel mm Tolerance mm Rated speed rpm LOW IDLE control lever position degree tolerance degree Testing: Rated speed rpm rack travel mm	75.0 +- 4.0 300 6.35
Rated speed rpm : guide sleeve travel mm : Tolerance mm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm :	1.29 + 0.20 1372 9.86 + 0.15 917 6.76 + 0.25	rack travel mm Tolerance mm Rated speed rpm LOW IDLE control lever position degree tolerance degree Testing: Rated speed rpm rack travel mm	75.0 +- 4.0
Rated speed rpm : guide sleeve travel mm : Tolerance mm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve	1.29 + 0.20 1372 9.86 + 0.15 917 6.76 + 0.25	rack travel mm Tolerance mm Rated speed rpm LOW IDLE control lever position degree tolerance degree Testing: Rated speed rpm rack travel mm	75.0 +- 4.0 300 6.35
Rated speed rpm : guide sleeve travel mm : Tolerance mm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : guide sleeve travel mm : guide sleeve travel mm :	1.29 + 0.20 1372 9.86 + 0.15 917 6.76 + 0.25 590 4.95	rack travel mm Tolerance mm Rated speed rpm LOW IDLE control lever position degree tolerance degree Testing: Rated speed rpm rack travel mm Tolerance mm	75.0 + 4.0 300 6.35 + 0.20
Rated speed rpm : guide sleeve travel mm : Tolerance mm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : guide sleeve travel mm : guide sleeve travel mm :	1.29 + 0.20 1372 9.86 + 0.15 917 6.76 + 0.25	rack travel mm Tolerance mm Rated speed rpm LOW IDLE control lever position degree tolerance degree Testing: Rated speed rpm rack travel mm	75.0 +- 4.0 300 6.35
Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm :	1.29 + 0.20 1372 9.86 + 0.15 917 6.76 + 0.25 590 4.95 + 0.25	rack travel mm Tolerance mm Rated speed rpm LOW IDLE control lever position degree tolerance degree Testing: Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	75.0 +- 75.0 +- 4.0 300 6.35 +- 0.20 250
Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : Rated s	1.29 + 0.20 1372 9.86 + 0.15 917 6.76 + 0.25 590 4.95	rack travel mm Tolerance mm Rated speed rpm LOW IDLE control lever position degree tolerance degree Testing: Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	75.0 + 4.0 300 6.35 + 0.20
Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve : Rated speed rpm : guide sleeve	1.29 + 0.20 1372 9.86 + 0.15 917 6.76 + 0.25 590 + 4.95 + 0.25 1710	rack travel mm Tolerance mm Rated speed rpm LOW IDLE control lever position degree tolerance degree Testing: Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	75.0 + 75.0 + 4.0 300 6.35 + 0.20 250 > 7.80
Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : Rated s	1.29 + 0.20 1372 9.86 + 0.15 917 6.76 + 0.25 590 4.95 + 0.25	rack travel mm Tolerance mm Rated speed rpm LOW IDLE control lever position degree tolerance degree Testing: Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	75.0 +- 75.0 +- 4.0 300 6.35 +- 0.20 250 > 7.80

TORQUE CONTROL

Rated speed rpm : 1250 rack travel mm : 12.60 Tolerance mm : + 0.05

Rated speed rpm : 800 rack travel mm : 12.20 Tolerance mm : + 0.10

Rated speed rpm : 1100 rack travel mm : 12.55 Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1100 Pressure hPa : 1200

MEASUREMENT

Pressure hPa : Rated speed rpm : 1100
rack travel mm : 9.70
Tolerance mm : +- 0.20

Rated speed rpm : 1100

Pressure hPa : 670
rack travel mm : 11.80
Tolerance mm : + 0.20

Pressure hPa : 385 rack travel mm : 10.50 Tolerance mm : + 0.20

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1200 Rated speed rpm : 800 Del. quantity

cm3/1000 strokes : 206.0 cm3/1000 strokes : \leftarrow 3.0 Check tolerance

cm3/1000s. : + 6.0

Spreed cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

Aneroid pressure

Rated speed rpm : 1100

Del. quantity

cm3/1000 strokes : 122.0 cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : \leftarrow 3.0

BREAKAWAY

Rack travel in mm : 11.60
Rated speed rpm : 1320
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 9.70 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : + 20.0 Check tolerance cm3/1000s. : + 25.0

LOW IDLE

Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 32.5 cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 5.0 Spreed cm3/1000 strokes : 5.0 Check tolerance cm3/1000s.8.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.11.96 Test oil : ISO 4113

Combination No. : 0 402 746 617

Injection pump

Pump designation : PES6P120A720RS7423

EP type number : 0 412 726 963

Governor

Governer design. : RQV325...975PA909

: -12K

Governer no. : 0 421 815 531

Cust. part No. : 313GC5224-P10

Customer—spec. information Customer : MACK Motor : EN7300A Power KW : 223.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 084

Inlet press. bar : 2.8 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.80
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.00

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance *NW : + 0.75

Start of delivery blocking

Tolerance : \leftarrow 0.50

Check

tolerance °NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 975

Rack travel in mm : 12.55

Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 202.0

27/4000 shadoo shadoo shadoo	+ cm3/1000 strokes : 5.0
cm3/1000 strokes : + 1.0	+ Check tolerance + cm3/1000s. : 9.0
Check tolerance cm3/1000s. : +- 4.0	
Spreed cm3/1000 strokes : 5.0	CONTROL LEVER
Check tolerance cm3/1000s. : 9.0	<pre>control lever position degree : 110.0 tolerance degree : + 4.0</pre>
5.70	RATED SPEED
Rack travel in mm : 5.30 Tolerance mm : + 0.10	rack travel mm : 11.60 Rated speed rpm : 1020 Tolerance 1/min : +- 5
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 4.00 Rated speed rpm : 1170 Tolerance 1/min : + 15
GUIDE SLEEVE TRAVEL	+ rack travel mm : 0.50
Rated speed rpm : 325 guide sleeve travel mm : 1.27 Tolerance mm : +- 0.20	Tolerance mm : +- 0.50 Rated speed rpm : 1250
Rated speed rpm : 1030 guide sleeve	+ LOW IDLE +
travel mm : 8.84 Tolerance mm : +- 0.15	+ control lever + position degree : 64.0
Rated speed rpm : 524 guide sleeve	tolerance degree : + 4.0
travel mm : 3.30 Tolerance mm : +- 0.25	Testing:
	Rated speed rpm : 325
Rated speed rpm : 390 guide sleeve	+ rack travel mm : 5.30 + Tolerance mm : + 0.10
travel mm : 2.30 Tolerance mm : + 0.25	Rated speed rpm : 225
Rated speed rpm : 1430 guide sleeve	$\frac{1}{1}$ CRT mm min. : > 4.80
travel mm : 13.50 Tolerance mm : +- 0.50	Rated speed rpm : 400
	TORQUE CONTROL
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 975
Rated speed rpm : 975 Aneroid pressure hPa : 1200	+ rack travel mm : 12.55 + Tolerance mm : +- 0.05
hPa : 1200 Del. quantity cm3/1000 strokes : 202.0 cm3/1000 strokes : +- 1.0	Rated speed rpm : 600 rack travel mm : 12.00 Tolerance mm : + 0.10
Check tolerance cm3/1000s. : +- 4.0 Spreed	Rated speed rpm : 500 + rack travel mm : 11.50

Tolerance mm	: +- 0.20	Rated speed rpm : 400 Del. quantity cm3/1000 strokes : 148.0
ANEROID/ALTITUDE COMPENSATOR TEST		cm3/1000 strokes : 146.0 - cm3/1000 strokes : +- 2.0 - Check tolerance - cm3/1000s. : +- 4.0
SETTING		BREAKAWAY
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1200 : 12.55	Rack travel in mm : 11.60 Rated speed rpm : 1020 Tolerance 1/min : +- 5
MEASUREMENT		‡
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: 8.20	STARTING FUEL DELIVERY Rated speed rpm : 100
Rated speed rpm	: 975	rack travel mm : 10.80 Tolerance mm : + 1.00 Del. quantity
Pressure hPa rack travel mm Tolerance mm	: 11.30	cm3/1000 strokes : 205.0 cm3/1000 strokes : + 20.0 Check tolerance cm3/1000s. : + 30.0
Pressure hPa rack travel mm Tolerance mm	: 235 : 9.30 : ← 0.05	
START CUT-OUT		- †
Rated speed rpm Rated speed rpm		End of test specification sheet
Check speed 1/min Check	; > 80	
speed 1/min	: < 285	-
FUEL DELIVERY CHA	ARACTERISTICS	-
Aneroid pressure hPa Rated speed rpm Del. quantity	: 1200 : 600	
cm3/1000 strokes cm3/1000 strokes Check tolerance		
cm3/1000s. Spreed	: +- 6.0	‡
cm3/1000 strokes Check tolerance cm3/1000S.	: 8.0 : 12.0	-
Aneroid pressure hPa	: -	+

D02

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 20.11.96 Test oil : ISO 4113

Combination No. : 9 400 030 722

Injection pump

Pump designation : PES4A95D320/3RS2880

EP type number : 9 410 037 214

Governor

Governer design. : RSV475...1100A0C837R

Governer no. : 9 420 034 707

Cust. part No. : DEP: 3928603

Customer—spec. information

Customer : CDC

: CUMMINS-4BTA-3.9 Motor

: 82.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : +- 2.0 Tolerance °C

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0
Tolerance bar : +- 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

D03

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.45
Tolerance mm : + 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-3-4-2

: 0-90-180-270 : +- 0.50 Phasing Tolerance

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Start of delivery blocking

*NW after s.o.d. : 9.00 Tolerance : \leftarrow 0.10

Check

tolerance *NW : +- 0.29

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 12.85

Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 110.0	Check tolerance cm3/1000s. : 6.5
CIRD/ 1000 SCHOKES . F- 1.0	·
Check tolerance cm3/1000s. : + 3.0	CONTROL LEVER
Spreed cm3/1000 strokes : 4.0	position degree : 106.0 tolerance degree : +- 4.0
Check tolerance cm3/1000S. : 6.5	RATED SPEED
Rated speed rpm : 475	rack travel mm : 11.80 Rated speed rpm : 1150 Tolerance 1/min : +- 5
Rack travel in mm: 6.15 Tolerance mm: + 0.10 Del. quantity	rack travel mm : 6.50 Rated speed rpm : 1225 Tolerance 1/min : + 5
<pre>cm3/1000 strokes : 22.6 cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.5</pre>	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1350
Spreed + 6.0	rack travel mm : 6.50
Check tolerance cm3/1000s. : 8.0	Rated speed rpm : 1225
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	LOW IDLE
	control lever position degree : 85.0
GUIDE SLEEVE POSITION	tolerance degree : + 4.0
Rated speed rpm : 800	Setting point w/out bumper spring
Rack travel in mm: 0.50 Tolerance mm: + 0.20	Rated speed rpm : 475
au	rack travel mm : 5.65
governor spring +	rack travel mm : 5.65 Testing:
governor spring pre-tension click setting x : 4.25	Testing: Rated speed rpm : 475 rack travel mm : 6.15
pre-tension +	Testing: Rated speed rpm : 475 rack travel mm : 6.15 Tolerance mm : + 0.10
pre-tension click setting x : 4.25	Testing: Rated speed rpm : 475 rack travel mm : 6.15
FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100 Aneroid pressure hPa : 1200 Del. quantity	Testing: Rated speed rpm : 475 rack travel mm : 6.15 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00
FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 110.0 cm3/1000 strokes : +- 1.0	Testing: Rated speed rpm : 475 rack travel mm : 6.15 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 TORQUE CONTROL
FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 110.0	Testing: Rated speed rpm : 475 rack travel mm : 6.15 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00

rack travel mm : 14.20 : **←** 0.20 Tolerance mm

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

800 Rated speed rpm : Pressure hPa 1200

MEASUREMENT

Pressure hPa Rated speed rpm 800 rack travel mm 10.90 : + 0.20 Tolerance mm

Rated speed rpm : 800

650 Pressure hPa rack travel mm 12.45 : + 0.20 Tolerance mm

550 Pressure hPa rack travel mm : 11.75 : **←** 0.20 Tolerance mm

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

1200 hPa Rated speed rpm : 750

Del. quantity

cm3/1000 strokes : 130.0 cm3/1000 strokes : +- 2.0 Check tolerance

cm3/1000s. : +- 4.0

Aneroid pressure

hPa 800 Rated speed rpm Del. quantity

cm3/1000 strokes : 84.0 cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : **←** 3.0

BREAKAWAY

Rack travel in mm : 11.80 Rated speed rpm : 1150 Tolerance 1/min : +-

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : - 0.50 Del. quantity cm3/1000 strokes : 121.4 cm3/1000 strokes : +- 10.0 Check tolerance : + 15.0 cm3/1000s.

LOW IDLE

Rated speed rpm : 475 Del. quantity cm3/1000 strokes : 22.6 cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 Spreed cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 31.10.96 Test oil : ISO 4113

Combination No. : 0 401 856 700

Injection pump

Pump designation : PE6P110A721RS3101 EP type number : 0 411 816 725

Governor

Governer design. : RQ300/1200PA412 Governer no. : 0 421 801 172

Cust. part No. :

Customer-spec. information Customer : SNF : WD615.67 Motor

Power KW : 206.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

173.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

26.0 Test pressure bar : Tolerance bar : + 1.0

rrestroke mm : Tolerance mm : 2.85 : + 0.05 Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300 Tolerance : + 0.30

Check

tolerance *NW : +- 0.50

Start of delivery mark

: +- 0.10 Tolerance Check

: +- 0.75 tolerance 'NW

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 12.05 Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 163.0

cm3/1000 strokes : +- 1.0	†
Check tolerance cm3/1000s. : + 4.0	control lever position degree : 40.0 tolerance degree : +- 4.0
Spreed cm3/1000 strokes : 4.0	RATED SPEED
Check tolerance cm3/1000s. : 7.5	rack travel mm : 11.00 Rated speed rpm : 1253 Tolerance 1/min : + 8
Rated speed rpm : 300	rack travel mm : 4.00 Rated speed rpm : 1340 Tolerance 1/min : +- 15
Rack travel in mm : 6.00 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 15.0 cm3/1000 strokes : + 3.0 Check tolerance	rack travel mm : 0.75 Tolerance mm : + 0.75 Rated speed rpm : 1450
cm3/1000s. : + 5.5 Spreed cm3/1000 strokes : 4.5	LOW IDLE
Check tolerance cm3/1000s. : 7.5 (B) SETTING OF INJECTION PUMP	control lever position degree : 14.0 tolerance degree : +- 4.0
WITH GOVERNOR	Testing:
GUIDE SLEEVE POSITION	+ Rated speed rpm : 300 + rack travel mm : 6.00 + Tolerance mm : + 0.10
Rated speed rpm : 600	rack travel mm : 2.00 Rated speed rpm : 425
Rack travel in mm : 16.00 Tolerance mm : +- 0.60	Tolerance 1/min : + 20 Rated speed rpm : 100
FULL LOAD DELIVERY AT FULL LOAD STOP	CRT mm min. : > 7.50
Rated speed rpm : 1200 Aneroid pressure	TORQUE CONTROL
hPa : 700 Del. quantity cm3/1000 strokes : 163.0 cm3/1000 strokes : + 1.0 Check tolerance	Dimension a mm : 0.35 Rated speed rpm : 1200 rack travel mm : 12.05 Tolerance mm : + 0.05
cm3/1000S. : +- 4.0 Spreed cm3/1000 strokes : 4.0 Check tolerance cm3/1000S. : 7.5	Rated speed rpm : 700 rack travel mm : 12.45 Tolerance mm : + 0.05
	Rated speed rpm : 1075 rack travel mm : 12.30 Tolerance mm : + 0.15
CONTROL LEVER	Rated speed rpm : 600 rack travel mm : 12.75

Tolerance mm	: + 0.20
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 700 : 12.45 : + 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 10.00 : + 0.10
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 420 : 11.55 : + 0.05
Pressure hPa rack travel mm Tolerance mm	: 330 : 10.40 : + 0.15
FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm	: 700 : 700 : 700 : 167.0 : + 2.0 : + 4.0
Del. quantity cm3/1000 strokes	404.0
cm3/1000 strokes Check tolerance	: +- 1.0
cm3/1000s.	: +- 4.0
BREAKAWAY	
Rack travel in mm Rated speed rpm	: 11.00 : 1253

800

Tolerance 1/min : + 8 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50 Del. quantity cm3/1000 strokes : 220.0<math>cm3/1000 strokes : + 15.0Check tolerance cm3/1000s. : +- 19.0 LOW IDLE Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 15.0 cm3/1000 strokes : \leftarrow 3.0 Check tolerance cm3/1000s. : +- 5.5 Spreed cm3/1000 strokes : 4.5 Check tolerance cm3/1000s. : 7.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

Test oil

: 04.11.96 : 04.11.96 : ISO 4113

Combination No. : 0 401 876 761

Injection pump

Pump designation : PE6P120B320RS3206 EP type number : 0 411 826 820

Governor

Governer design. : RSV250...900P4A657

Governer no. : 0 421 833 575

Cust. part No. : 3826529 PO1 v. 10/96

Customer-spec. information

Customer : VOLVO-PENTA Motor : TAMD122 A Power KW : 280.0

TEST BENCH REQUIREMENTS

: 3.2 Inlet line

Vibration

damper

(RoBo diaphragm): 4.1

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm: 8.70 Tolerance mm : \leftarrow 0.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

: +- 0.30 Tolerance

Check

tolerance *NW : +- 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 11.40 Tolerance mm : \leftarrow 0.05

Del. quantity cm3/1000 strokes	: 264.0	Check tolerance cm3/1000s. : 9.0
cm3/1000 strokes	: + 1.0	
Check tolerance cm3/1000s.	: + 4.0	CONTROL LEVER
Spreed cm3/1000 strokes	: 5.0	position degree : 62.0 tolerance degree : +- 4.0
Check tolerance cm3/1000s.	: 9.0	<pre>control lever position degree : 112.0 tolerance degree : + 4.0</pre>
Rated speed rpm	: 250	RATED SPEED
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes	: + 0.10	rack travel mm : 10.40 Rated speed rpm : 960 Tolerance 1/min : + 5
cm3/1000 strokes Check tolerance cm3/1000s.	: + 3.0	rack travel mm : 4.00 Rated speed rpm : 1000 Tolerance 1/min : +- 15
Spreed cm3/1000 strokes Check tolerance	+	rack travel mm : 0.85 Tolerance mm : +- 0.55
cm3/1000s.	: 7.0	Rated speed rpm : 1130
(B) SETTING OF INJ WITH GOVERNOR	ECTION PUMP	rack travel mm : 4.00 Rated speed rpm : 1010
GUIDE SLEEVE POSIT	TION	LOW IDLE
Rated speed rpm	+	control lever
Rack travel in mm Tolerance mm	: 0.50	position degree : 78.0 tolerance degree : + 4.0
governor spring pre-tension		control lever position degree : 28.0 tolerance degree : +- 4.0
click setting x	: 4.00	Setting point w/out bumper spring
FULL LOAD DELIVERY	AT FULL LOAD STOP	Rated speed rpm : 250
Rated speed rpm Aneroid pressure	+	rack travel mm : 4.60 Testing:
hPa Del. quantity cm3/1000 strokes cm3/1000 strokes		Rated speed rpm : 250 rack travel mm : 5.10 Tolerance mm : +- 0.10
Check tolerance	: + 4.0	rack travel mm : 2.00 Rated speed rpm : 410_
cm3/1000 strokes	: 5.0	Tolerance 1/min : +- 30

TORQUE CONTROL

Rated speed rpm : 700 rack travel mm : 11.40 Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 700
Pressure hPa : 1500
rack travel mm : 11.40
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : Rated speed rpm : 700
rack travel mm : 8.70
Tolerance mm : + 0.10

Rated speed rpm : 700

Pressure hPa : 770
rack travel mm : 2.70
Tolerance mm : + 0.20

Pressure hPa : 240 rack travel mm : 0.25 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : Rated speed rpm : 700
Del. quantity

cm3/1000 strokes : 178.0 cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. : +- 4.0

BREAKAWAY

Rack travel in mm: 10.40
Rated speed rpm: 960
Tolerance 1/min: + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 8.70 Tolerance mm : +- 0.10

LOW IDLE

Rated speed rpm : 250 Del. quantity cm3/1000 strokes : 20.0 cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. : +-6.0 Spreed cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. 7.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 06.11.96 Edition : ISO 4113 Test oil

Combination No. : 0 401 876 762

Injection pump

Pump designation : PE6P120B320RS3206 EP type number : 0 411 826 820

Governor

Governer design. : RSV250...900P4A660

Governer no. : 0 421 833 578

Cust. part No. : 3826532 PO1 v.10/96

Customer-spec. information

Customer : VOLVO-PENTA Motor : TMD 122 A (HD)

Power KW : 235.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Vibration

damper

(RoBo diaphragm) : 4.1

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.55 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 8.70

Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

: +- 0.30 Tolerance

Check

tolerance *NW : **←** 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 9.95

Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 213.5

T.4000	-
cm3/1000 strokes : + 1.0	- CONTROL LEVER
Check tolerance + 4.0 +	- - control lever
CIID7 100001	position degree : 60.0
Spreed	tolerance degree : + 4.0
cm3/1000 strokes : 5.0	•
-	- control lever
Check tolerance +	- position degree : 108.0
cm3/1000s. : 9.0	- tolerance degree : +- 4.0
Rated speed rpm : 250	- RATED SPEED
Nated speed (pii) . 250	- NATED OF EED
+	- rack travel mm : 8.95
Rack travel in mm: 5.10	- Rated speed rpm : 930
Tolerance mm : + 0.10	- Tolerance 1/min : +- 5
Del. quantity	
cm3/1000 strokes : 20.0	rack travel mm : 4.00
cm3/1000 strokes : + 3.0	- Rated speed rpm : 980 - Tolerance 1/min : +- 15
Check tolerance cm3/1000s. : + 6.0	loterance //min : + 15
Spreed	rack travel mm : 0.85
cm3/1000 strokes : 5.0	Tolerance mm : +- 0.55
Check tolerance	Rated speed rpm : 1130
cm3/1000s. : 8.0	•
+	rack travel mm : 4.00
+	- Rated speed rpm : 990
(B) SETTING OF INJECTION PUMP +	•
WITH GOVERNOR	•
	LOW TOLE
	LOW IDLE
	•
GUIDE SLEEVE POSITION	- control lever
WITH GOVERNOR	- control lever - position degree : 79.0
GUIDE SLEEVE POSITION Rated speed rpm : 800	- control lever
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50	control lever position degree : 79.0 tolerance degree : +- 4.0
GUIDE SLEEVE POSITION Rated speed rpm : 800	control lever position degree : 79.0 tolerance degree : +- 4.0 control lever
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20	control lever position degree : 79.0 tolerance degree : +- 4.0 control lever position degree : 31.0
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring	control lever position degree : 79.0 tolerance degree : +- 4.0 control lever
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	control lever position degree : 79.0 tolerance degree : +- 4.0 control lever position degree : 31.0 tolerance degree : +- 4.0
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring	control lever position degree : 79.0 tolerance degree : +- 4.0 control lever position degree : 31.0 tolerance degree : +- 4.0 Setting point w/out bumper spring
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 6.00	control lever position degree : 79.0 tolerance degree : +- 4.0 control lever position degree : 31.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 250
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	control lever position degree : 79.0 tolerance degree : +- 4.0 control lever position degree : 31.0 tolerance degree : +- 4.0 Setting point w/out bumper spring
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 6.00 FULL LOAD DELIVERY AT FULL LOAD STOP	control lever position degree : 79.0 tolerance degree : + 4.0 control lever position degree : 31.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 250 rack travel mm : 4.60
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 6.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700	control lever position degree : 79.0 tolerance degree : +- 4.0 control lever position degree : 31.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 250
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 6.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure	control lever position degree : 79.0 tolerance degree : + 4.0 control lever position degree : 31.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 250 rack travel mm : 4.60 Testing:
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 6.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : 1000	control lever position degree : 79.0 tolerance degree : +- 4.0 control lever position degree : 31.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 250 rack travel mm : 4.60 Testing: Rated speed rpm : 250
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 6.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : 1000 Del. quantity	control lever position degree : 79.0 tolerance degree : + 4.0 control lever position degree : 31.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 250 rack travel mm : 4.60 Testing:
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 6.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : 1000 Del. quantity	control lever position degree : 79.0 tolerance degree : +- 4.0 control lever position degree : 31.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 250 rack travel mm : 4.60 Testing: Rated speed rpm : 250 rack travel mm : 5.10
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 6.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 213.5	control lever position degree : 79.0 tolerance degree : +- 4.0 control lever position degree : 31.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 250 rack travel mm : 4.60 Testing: Rated speed rpm : 250 rack travel mm : 5.10 Tolerance mm : +- 0.10 rack travel mm : 2.00
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 6.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 213.5 cm3/1000 strokes : + 1.0	control lever position degree : 79.0 tolerance degree : +- 4.0 control lever position degree : 31.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 250 rack travel mm : 4.60 Testing: Rated speed rpm : 250 rack travel mm : 5.10 Tolerance mm : +- 0.10 rack travel mm : 2.00 Rated speed rpm : 2.00 Rated speed rpm : 410
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 6.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 213.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed	control lever position degree : 79.0 tolerance degree : +- 4.0 control lever position degree : 31.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 250 rack travel mm : 4.60 Testing: Rated speed rpm : 250 rack travel mm : 5.10 Tolerance mm : +- 0.10 rack travel mm : 2.00
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 6.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 213.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s : + 4.0 Spreed cm3/1000 strokes : 5.0	control lever position degree : 79.0 tolerance degree : +- 4.0 control lever position degree : 31.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 250 rack travel mm : 4.60 Testing: Rated speed rpm : 250 rack travel mm : 5.10 Tolerance mm : +- 0.10 rack travel mm : 2.00 Rated speed rpm : 2.00 Rated speed rpm : 410
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 6.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 213.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed	control lever position degree : 79.0 tolerance degree : +- 4.0 control lever position degree : 31.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 250 rack travel mm : 4.60 Testing: Rated speed rpm : 250 rack travel mm : 5.10 Tolerance mm : +- 0.10 rack travel mm : 2.00 Rated speed rpm : 2.00 Rated speed rpm : 410

Rated speed rpm rack travel mm Tolerance mm	: +	700 9.95 - 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm	:	700
Pressure hPa	:	1000
rack travel mm	:	9.95
Tolerance mm	:	+- 0.05

MEASUREMENT

Pressure hPa	:		-
Rated speed rpm	:		700
rack travel mm	:		8.70
Tolerance mm	:	+-	0.10

Rated	speed	rpm	:	700
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Pressure hPa	:	600
rack travel mm	:	0.90
Tolerance mm	:	← 0.15

Pressure hPa	:	460
rack travel mm	:	0.25
Tolerance mm	: +	-0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : - 700

Del. quantity

cm3/1000 strokes : 178.0 cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 4.0

BREAKAWAY

Rack travel in mm : 8.95
Rated speed rpm : 930
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100

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LOW IDLE

Rated speed rpm Del. quantity	:	250	
cm3/1000 strokes cm3/1000 strokes	: +-	20.0	
Check tolerance cm3/1000s.	: +-	6.0	
Spreed cm3/1000 strokes	:	5.0	
Check tolerance cm3/1000s.	:	8.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 05.11.96 : ISO 4113

Combination No. : 0 402 640 845

Injection pump

Pump designation : PE12P120A320LS7896

EP type number : 0 412 620 847

Governor

Governer design. : RQV350...1050PA1306

Governer no. : 0 421 814 179

Cust. part No. : 0270749102

Customer-spec. information Customer : MB-NFZ : OM 444 LA Motor : 500.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : + 2.0

Overflow valve : 1 417 413 077

Inlet press. bar : 2.0

Overflow quantity

min. L/h 170 min. l/n : 1/0
Tolerance l/h : +- 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 har Tolerance bar : + 1.5 Test Lines : 1 680 750 075

Outside diameter : 6.0

x inside diameter: x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 5.25 : +- 0.05 Tolerance mm

Check

tolerance mm : + 0.10

Rack travel in mm: 20.50 : **←** 0.50 Tolerance mm

: 12- 1- 5- 9- 8 Firing order

: - 3- 4- 11- 10 : - 2- 6- 7

Phasing : 0-45-60-105-120

: -165-180-225-240

: -285-300-345

Tolerance : + 0.30

Check

tolerance °NW : + 0.50

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 15.10 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 227.5

cm3/1000 strokes : +-1.0

Check tolerance + 4.0 +	·
	GUIDE SLEEVE POSITION
Spreed cm3/1000 strokes : 6.0	Rated speed rpm : 1165
Check tolerance cm3/1000s. : 10.0	Rack travel in mm : 14.10 Tolerance mm : 1.30
Rated speed rpm : 350	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm: 6.20 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 19.0 cm3/1000 strokes: + 3.0	Rated speed rpm : 1050 Aneroid pressure hPa : 1300 Del. quantity cm3/1000 strokes : 227.5
Check tolerance cm3/1000s. : + 6.0 Spreed	cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0
cm3/1000 strokes : 8.0 Check tolerance + cm3/1000s. : 12.0	Spreed cm3/1000 strokes : 6.0 Check tolerance
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	cm3/1000s. : 10.0
WITH GOVERNOR	CONTROL LEVER
GUIDE SLEEVE TRAVEL	control lever position degree : 118.0
Rated speed rpm : 350 guide sleeve	tolerance degree : +- 4.0
travel mm : 1.48 Tolerance mm : + 0.20	RATED SPEED rack travel mm : 14.10
Rated speed rpm : 1107 guide sleeve	Rated speed rpm : 1095 Tolerance 1/min : +- 5
travel mm : 8.04 Tolerance mm : + 0.15	rack travel mm : 4.00 Rated speed rpm : 1190
Rated speed rpm : 900 + guide sleeve +	Tolerance 1/min : +- 15
travel mm : 5.69 Tolerance mm : + 0.25	rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1300
Rated speed rpm : 580 + guide sleeve +	
travel mm : 3.62 + Tolerance mm : + 0.25 +	LOW IDLE
Rated speed rpm : 1204 guide sleeve travel mm : 10.00	control lever position degree : 67.0
Tolerance mm : + 0.25	tolerance degree : +- 4.0
Rated speed rpm : 1300 + guide sleeve + 11.50	Testing:
travel mm : 11.50 + Tolerance mm : + 0.50 +	Rated speed rpm : 350 rack travel mm : 6.20

Tolerance mm	: ← 0.10
Rated speed rpm	: 250
CRT mm min.	: > 8.50
Rated speed rpm	: 400
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 1050 : 15.10 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 800 : 15.10 : + 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
MEASUREMENT	
Pressure hPa Rated speed rpm	: - : 500
Pressure hPa rack travel mm Toler a nce mm	: 300 : 1.20 : + 0.05
Pressure hPa rack travel mm Tolerance mm	: 600 : 3.85 : + 0.15
START CUT-OUT	
Rated speed rpm Rated speed rpm	: > 210 : < 270
Check speed 1/min	; > 190
Check speed 1/min	: < 290
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm	: 1300 : 800
Del. quantity cm3/1000 strokes cm3/1000 strokes	: 226.0 : +- 3.0
Check tolerance cm3/1000s.	: 6.0

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Spreed cm3/1000 strokes Check tolerance cm3/1000s.	: 10.0 : 15.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance cm3/1000s.	: - : 500 : 134.0 : + 1.0 : + 4.0 : 8.0 : 12.0
BREAKAWAY	
Rack travel in mm Rated speed rpm Tolerance 1/min	: 14.10 : 1095 : + 5

STARTING FUEL DEL	.IVERY	•
Rated speed rpm Del. quantity	:	100
cm3/1000 strokes cm3/1000 strokes	: +-	250.0 - 10.0
Check tolerance cm3/1000s.	: +-	- 14.0

LOW IDLE	
Rated speed rpm Del. quantity	: 350
cm3/1000 strokes cm3/1000 strokes Check tolerance	: 19.0 : + 3.0
cm3/1000s. Spreed	: ← 6.0
cm3/1000 strokes Check tolerance	: 8.0
cm3/1000s.	: 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 04.11.96 Edition : ISO 4113 Test oil

Combination No. : 0 402 646 989

Injection pump

Pump designation : PE6P120A320RS7230

: -10Y

EP type number : 0 412 626 898

Governor

Governer design. : RQV250...1000PA990K

Governer no. : 0 421 815 274

Cust. part No. : 1250708/2

Customer-spec. information Customer : DAF Motor : WS 315 L : 315.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : + 2.0 Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 : +- 0.1 Tolerance bar

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 : **←** 1.5 Tolerance bar

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.05 Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm: 14.50 Tolerance mm : \leftarrow 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance *NW : +- 0.50

Start of delivery mark

Barrel no. :

BASIC SETTING

Rated speed rpm : 980

Rack travel in mm: 14.55 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 274.0

cm3/1000 strokes : +- 1.0

Check tolerance +	
cm3/1000s. : + 4.0	Rated speed rpm : 1310
	guide sleeve
Spreed	travel mm : 13.50
cm3/1000 strokes : 5.0 +	Tolerance mm : + 0.50
<u> </u>	
Check tolerance +	
cm3/1000s. : 9.0	GUIDE SLEEVE POSITION
Rated speed rpm : 250	Rated speed rpm : 1130
rated speed this . 200	Rateu speed rpm . 1150
1	Rack travel in mm : 13.50
Rack travel in mm: 5.20	Tolerance mm : +- 1.30
Tolerance mm : + 0.10	
Del. quantity	
cm3/1000 strokes : 17.0	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes : + 3.0	Data dispersion of COO
Check tolerance	Rated speed rpm : 980
cm3/1000s. ; +- 6.0 +- 5preed	Aneroid pressure hPa : 1500
cm3/1000 strokes : 8.0	Del. quantity
Check tolerance	cm3/1000 strokes : 274.0
cm3/1000s. : 12.0	cm3/1000 strokes : $+$ 1.0
+	Check tolerance cm3/1000S. : +- 4.0
t	cm3/1000s. : +- 4.0
(B) SETTING OF INJECTION PUMP	Spreed
WITH GOVERNOR +	cm3/1000 strokes : 5.0 Check tolerance
I	cm3/1000s. : 9.0
GUIDE SLEEVE TRAVEL	(III) (0000)
dollar decear marks	
Rated speed rpm : 250	
guide sleeve +	CONTROL LEVER
travel mm : 1.53	
Tolerance mm : + 0.20	control lever
Rated speed rpm : 1045	position degree : 120.0 tolerance degree : +- 4.0
guide steeve	toterance degree . 1 4.0
travel mm : 9.82	RATED SPEED
Tolerance mm : + 0.15	
+	rack travel mm : 13.55
Rated speed rpm : 689	Rated speed rpm : 1032
guide sleeve +	Tolerance 1/min : +- 8
travel mm : 6.43 + Tolerance mm : + 0.25 +	rack travel mm : 4.00
TOTAL CHANGE THE TOTAL CONTRACT OF THE CONTRAC	Rated speed rpm : 1150
Rated speed rpm : 284	Tolerance 1/min : +- 15
guide steeve	
travel mm : 2.27 +	rack travel mm : 0.70
Tolerance mm : +- 0.25 +	Tolerance mm : + 0.70
	Rated speed rpm : 1275
Rated speed rpm : 334	
guide sleeve + travel mm : 3.08 +	
Tolerance mm : +- 0.25	LOW IDLE
1.000. Gilloc IIII	
Rated speed rpm : 400	
guide sleeve +	control lever
travel mm : 3.92 +	position degree : 70.0
Tolerance mm : + 0.25 +	tolerance degree : +- 4.0

Testing:

Rated speed rpm : 250 rack travel mm : 5.20 Tolerance mm : + 0.10

rack travel mm : 2.00 Rated speed rpm : 350 Tolerance 1/min : + 20

Rated speed rpm : 150

CRT mm min. : > 7.00

TORQUE CONTROL

Rated speed rpm : 980 rack travel mm : 14.55 Tolerance mm : + 0.05

Rated speed rpm : 600 rack travel mm : 13.30 Tolerance mm : + 0.05

Rated speed rpm : 400 rack travel mm : 13.20 Tolerance mm : ← 0.10

Rated speed rpm : 800 rack travel mm : 14.20 Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 980
Pressure hPa : 1500
rack travel mm : 14.55
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : Rated speed rpm : 980
rack travel mm : 9.10
Tolerance mm : +- 0.10

Rated speed rpm : 980

Pressure hPa : 760 rack travel mm : 13.15 Tolerance mm : +- 0.05

Pressure hPa : 350

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1500
Rated speed rpm : 600
Del. quantity
cm3/1000 strokes : 286.0
cm3/1000 strokes : + 2.0
Check tolerance
cm3/1000s. : + 5.0
Spreed

cm3/1000 strokes : 8.0 Check tolerance

cm3/1000s. : 12.0

Aneroid pressure

hPa : Rated speed rpm : 600
Del. quantity
cm3/1000 strokes : 172.0

cm3/1000 strokes : 172.0 cm3/1000 strokes : + 1.0 Check tolerance

cm3/1000s. : +- 4.0

BREAKAWAY

Rack travel in mm : 13.55
Rated speed rpm : 1032
Tolerance 1/min : + 8

LOW IDLE

cm3/1000s.

Rated speed rpm : 250
Del. quantity
cm3/1000 strokes : 17.0
cm3/1000 strokes : + 3.0
Check tolerance
cm3/1000s. : + 6.0
Spreed
cm3/1000 strokes : 8.0
Check tolerance

: 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 05.11.96 Test oil : ISO 4113

Combination No. : 0 402 648 788

Injection pump

Pump designation : PE8P12OA32OLS7897 EP type number : 0 412 628 915

Governor

Governer design. : RQV350...1050PA1307

Governer no. : 0 421 814 180

Cust. part No. :

Customer—spec. information Customer : MB-NFZ Motor : OM442 LA Power KW : 370.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. *C : 40
Tolerance *C : + 2.0

Overflow valve : 1 417 413 077

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Overflow quantity

min. L/h : 110 Tolerance L/h : + 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 2.5 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.80 Tolerance mm : +- 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

Phasing : 0-45-90-135-180

: -225-270-315 rance : +- 0.30

Tolerance Check

tolerance *NW : + 0.50

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance *NW : + 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 15.35 Tolerance mm : + 0.05

	+ Tolerance mm : +- 0.25
Del. quantity cm3/1000 strokes : 272.0	+ Rated speed rpm : 1300
2/4000 - 41	guide sleeve
cm3/1000 strokes : +- 1.0	travel mm : 11.50 Tolerance mm : + 0.50
Check tolerance cm3/1000s. : +- 4.0	
**************************************	GUIDE SLEEVE POSITION
Spreed cm3/1000 strokes : 5.0	Rated speed rpm : 1160
Check tolerance cm3/1000s. : 9.0	Rack travel in mm: 14.30 Tolerance mm: + 1.30
Rated speed rpm : 350	
	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm : 5.10	Rated speed rpm : 1050
Tolerance mm : +- 0.10 Del. quantity	Aneroid pressure hPa : 1800
cm3/1000 strokes : 20.0	+ Del. quantity
cm3/1000 strokes : +- 3.0	+ cm3/1000 strokes : 272.0
Check tolerance	+ cm3/1000 strokes : +- 1.0
cm3/1000s. : +- 6.0	+ Check tolerance
Spreed cm3/1000 strokes : 6.0	+ cm3/1000s. : + 4.0 + Spreed
Check tolerance	+ cm3/1000 strokes : 5.0
cm3/1000s. : 10.0	+ Check tolerance
	+ cm3/1000s. : 9.0
(D) CETTING OF THIECTION DUMP	†
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	I
TETT GOTENION	CONTROL LEVER
GUIDE SLEEVE TRAVEL	control lever position degree : 121.0
Rated speed rpm : 350	tolerance degree : + 4.0
guide sleeve	+
travel mm : 1.48 Tolerance mm : + 0.20	RATED SPEED
Tolerance mm : + 0.20	T + rack travel mm : 14.30
Rated speed rpm : 1108	Rated speed rpm : 1095
guide sleeve	Tolerance 1/min : + 5
travel mm : 8.04	†
Tolerance mm : +- 0.15	rack travel mm : 4.00 Rated speed rpm : 1195
Rated speed rpm : 900 guide sleeve	Tolerance 1/min : + 15
travel mm : 5.69	rack travel mm : 0.50
Tolerance mm : + 0.25	Tolerance mm : + 0.50
570	Rated speed rpm : 1240
Rated speed rpm : 570 guide sleeve	İ
travel mm : 3.57	I
Tolerance mm : + 0.25	LOW IDLE
	†
Rated speed rpm : 1204 guide sleeve	t control lever
travel mm : 10.00	position degree : 67.0
	, production of the contract o

tolerance degree	: +- 4.0	Rated speed rpm : 800 Del. quantity
Testing:		cm3/1000 strokes : 274.0
		+ cm3/1000 strokes : +- 3.0
Rated speed rpm	: 350 -	Check tolerance
rack travel mm Tolerance mm	· + 0 10	cm3/1000s. : +- 6.0
TOCCI GITCC IIII		Aneroid pressure
Rated speed rpm	: 250 -	- hPa : 1800
	-	Rated speed rpm : 1050
CRT mm min.	: > 7.50	Del. quantity cm3/1000 strokes : 156.0
Rated speed rpm	· 450	- cm3/1000 strokes : +- 2.0
······································	-	Check tolerance
		cm3/1000s. : +- 5.0
TORQUE CONTROL	•	Amanaid massages
Rated speed rpm	: 1050	Aneroid pressure hPa : -
rack travel mm	: 15.35	Rated speed rpm : 500
rack travel mm Tolerance mm	: +- 0.05	Del. quantity
	-	cm3/1000 strokes : 130.0
Rated speed rpm	: 800 -	cm3/1000 strokes : +- 1.0 Check tolerance
rack travel mm Tolerance mm	: 15.35 - : + 0.10 -	cm3/1000s. : +- 4.0
TOTOL GIFTOC TIRIN	-	
ANEROTA (AL TITURE	-	DOMAKAKAY
ANEROID/ALTITUDE COMPENSATOR TEST	-	BREAKAWAY
COMPENSATOR TEST	_	
	-	Rack travel in mm : 14.30
	-	Rated speed rpm : 1095
MEASUREMENT	-	Tolerance 1/min : +- 5
Pressure hPa	•	
Rated speed rpm	: 500	
	-	STARTING FUEL DELIVERY
Pressure hPa	: 290	Poted speed now 100
rack travel mm Folerance mm	: 0.75 : +- 0.05	- Rated speed rpm : 100 - Del. quantity
COLORIOG HIM	-	cm3/1000 strokes : 270.0
Pressure hPa		cm3/1000 strokes : +- 10.0
rack travel mm	: 3.90	Check tolerance
Tolerance mm	: + U.2U -	- cm3/1000s. : ← 14.0
START CUT-OUT	7	
Rated speed rpm	: > 210	- LOW IDLE
Rated speed rpm	: < 270	
		- Rated speed rpm : 350
·	+	
Check	100	- Del. quantity
Check speed 1/min	: > 190	Del. quantity cm3/1000 strokes : 20.0
Check speed 1/min Check	-	Del. quantity cm3/1000 strokes : 20.0 cm3/1000 strokes : +- 3.0
Check speed 1/min Check	-	Del. quantity cm3/1000 strokes : 20.0
Check speed 1/min Check speed 1/min	: < 290	Del. quantity cm3/1000 strokes : 20.0 cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed
Check speed 1/min Check speed 1/min	: < 290	Del. quantity cm3/1000 strokes : 20.0 cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed cm3/1000 strokes : 6.0
Check speed 1/min Check speed 1/min FUEL DELIVERY CHAR	: < 290	Del. quantity cm3/1000 strokes : 20.0 cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed cm3/1000 strokes : 6.0 Check tolerance
Check speed 1/min Check speed 1/min	: < 290	Del. quantity cm3/1000 strokes : 20.0 cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed cm3/1000 strokes : 6.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.11.96 Test oil : ISO 4113

Combination No. : 0 402 648 978

Injection pump

Pump designation : PE8P12OA32OLS7880 EP type number : 0 412 628 889

Governor

Governer design. : RQV350...1050PA1180

Governer no. : 0 421 814 109

Cust. part No. : 0250742502

Customer—spec. information
Customer : MB-NFZ
Motor : 0M442 LA
Power KW : 405.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. $^{\circ}$ C :

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : +- 0.1

Tolerance l/h: + 10.0

Test nozzle holde

assembly : 1 638 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.75
Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

Phasing : 0-45-90-135-180

: -225-270-315 Tolerance : +- 0.30

Check

tolerance "NW : + 0.50

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance *NW : +- 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 15.00

D27

Tolerance mm	; +- 0.05	+ guide:
Del. quantity		+ travel + Tolerar
cm3/1000 strokes	: 282.0	Tiotera
		+ Rated :
cm3/1000 strokes	; + 1.0	+ guide s
Charl Astanana	*****************	+ travel
Check tolerance cm3/1000s.	: +- 4.0	Tolerar
CIID7 10005.	* * ***	Ī
Spreed		- GUIDE S
cm3/1000 strokes	: 6.0	+
Charle dallamana		+ Rated :
Check tolerance cm3/1000s.	: 9.0	Rack tr
CIID/ 10003.	, 7.0	+ Tolerar
Rated speed rpm	: 350	+
		+
Dools Americal Service	. F 70	+ FULL LO
Rack travel in mm Tolerance mm	n: 5.70 :+- 0.10	Rated s
Del. quantity	0.10	+ Aneroid
cm3/1000 strokes	: 19.0	+ hPa
cm3/1000 strokes	: +- 3.0	+ Del. qu
Check tolerance		+ cm3/100
cm3/1000s.	: + 6.0	+ cm3/100 + Check 1
Spreed		+ cm3/100
cm3/1000 etrokee	0 11	
	: 6.0	
Check tolerance	: 10.0	+ Spreed
Check tolerance		Spreed cm3/100 Check t
cm3/1000 strokes Check tolerance cm3/1000s.	: 10.0	Spreed cm3/100
Check tolerance cm3/1000s. (B) SETTING OF IN	: 10.0	Spreed cm3/100 Check t
Check tolerance cm3/1000S. (B) SETTING OF IN	: 10.0	Spreed cm3/100 Check t
Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR	: 10.0 NJECTION PUMP	Spreed cm3/100 Check t
Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR	: 10.0 NJECTION PUMP	Spreed cm3/100 check t cm3/100
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Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: 10.0 NJECTION PUMP /EL : 350 : 2.14 : +- 0.10 : 1111 : 8.55	Spreed cm3/100 Check t cm3/100 Control position tolerar RATED S rack tr
Check tolerance cm3/1000s. (B) SETTING OF INVITH GOVERNOR SUIDE SLEEVE TRAVERATED SLEEVE TRAVERATED SLEEVE TRAVERATED SLEEVE TRAVERATED SLEEVE TRAVERATED SLEEVE TRAVERATED SLEEVE TRAVERATED SLEEVE TRAVERATED SLEEVE TRAVERATED SLEEVE TRAVERATED SLEEVE TRAVERATED TRAVERATED SLEEVE TRAVERATED SLEEVE TRAVERATED SLEEVE TRAVERATED TRAVERATED TRAVERATED TRAVERATED SLEEVE SLEEVE TRAVERATED SLEEVE SLEE	: 10.0 NJECTION PUMP /EL : 350 : 2.14 : + 0.10 : 1111	Spreed cm3/100 Check t cm3/100 Control position tolerar RATED S rack tr Rated s Tolerar
Check tolerance cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVERATED	: 10.0 NJECTION PUMP VEL : 350 : 2.14 : +- 0.10 : 1111 : 8.55 : +- 0.20	Spreed cm3/100 Check t cm3/100 Control position tolerar RATED S rack tr Rated s Tolerar rack tr
Check tolerance cm3/1000s. (B) SETTING OF INWITH GOVERNOR SUIDE SLEEVE TRAVERATED	: 10.0 NJECTION PUMP VEL : 350 : 2.14 : +- 0.10 : 1111 : 8.55 : +- 0.20	Spreed cm3/100 Check t cm3/100 Control position tolerar RATED S rack tr Rated s Tolerar rack tr Rated s
Check tolerance cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVERATE Speed rpm guide sleeve travel mm Rated speed rpm guide sleeve travel mm Rated speed rpm guide sleeve travel mm Rated speed rpm guide sleeve travel mm Rated speed rpm guide sleeve rpm guide sleeve	: 10.0 NJECTION PUMP /EL : 350 : 2.14 : + 0.10 : 1111 : 8.55 : + 0.20 : 558	Spreed cm3/100 Check t cm3/100 Control position tolerar RATED S rack tr Rated s Tolerar rack tr Rated s
Check tolerance cm3/1000s. (B) SETTING OF INVITH GOVERNOR GUIDE SLEEVE TRAVERATED	: 10.0 NJECTION PUMP VEL : 350 : 2.14 : +- 0.10 : 1111 : 8.55 : +- 0.20	Spreed cm3/100 Check t cm3/100 Control position tolerar RATED S rack tr Rated s Tolerar rack tr Rated s Tolerar
Check tolerance cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVERATED SPEED TRAVERATED SPEED TRAVERATED SPEED TRAVERATED SPEED TRAVERATED SPEED TRAVERATED SPEED TRAVERATED SPEED TRAVERATED SPEED TRAVERATED SPEED TRAVERATED SPEED TRAVERATED TOLERANCE TRAVERATED TOLERANCE TRAVERATED TOLERANCE TRAVERATED TOLERANCE TRAVERATED TOLERANCE TRAVERATED TOLERANCE TRAVERATED TO TOLERANCE TRAVERATED TO TOLERANCE TRAVERATED TO TO TO TO TO TO TO TO TO TO TO TO TO	: 10.0 NJECTION PUMP VEL : 350 : 2.14 : + 0.10 : 1111 : 8.55 : + 0.20 : 558 : 4.53 : + 0.25	Spreed cm3/100 Check t cm3/100 Control position tolerar RATED S rack tr Rated s Tolerar rack tr Rated s Tolerar rack tr
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Check tolerance cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVERATED SLEEVE SLEEVE TRAVERATED SLEEVE TRAV	: 10.0 NJECTION PUMP VEL : 350 : 2.14 : + 0.10 : 1111 : 8.55 : + 0.20 : 558 : 4.53 : + 0.25 : 608	Spreed cm3/100 Check to cm3/100 Check to cm3/100 Check to cm3/100 Check to cm3/100 Check to cm3/100 Check to control control control check to check to check to cm3/100 Check to check to cm3/100 Check to check t
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Check tolerance cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 10.0 NJECTION PUMP VEL : 350 : 2.14 : + 0.10 : 1111 : 8.55 : + 0.20 : 558 : 4.53 : + 0.25 : 608	Spreed cm3/100 Check t cm3/100 Control position tolerar RATED S rack tr Rated s Tolerar rack tr Rated s Tolerar rack tr Rated s
Check tolerance cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 10.0 NJECTION PUMP VEL : 350 : 2.14 : + 0.10 : 1111 : 8.55 : + 0.20 : 558 : + 4.53 : + 0.25 : 608 : 5.03 : + 0.25	Spreed cm3/100 Check t cm3/100 Control position tolerar RATED S rack tr Rated s Tolerar rack tr Rated s Tolerar rack tr

guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 6.13 : + 0.25 : 1183 : 10.00 : + 0.25
GUIDE SLEEVE POSI	TION
Rated speed rpm	: 1120
Rack travel in mm Tolerance mm	: 14.00 : + 1.30
FULL LOAD DELIVER	Y AT FULL LOAD STOP
Rated speed rpm Aneroid pressure	: 1050
hPa Del. quantity	: 1300
cm3/1000 strokes	
Check tolerance cm3/1000s.	: +- 4.0
Spreed	
cm3/1000 strokes Check tolerance	: 6.0
cm3/1000s.	: 9.0
CONTROL LEVER	
control lever position degree tolerance degree	: 123.0 : + 4.0
RATED SPEED	
rack travel mm Rated speed rpm Tolerance 1/min	: 14.00 : 1098 : +- 8
rack travel mm	
Rated speed rpm Tolerance 1/min	: 4.00 : 1185 : + 15
rack travel mm Tolerance mm Rated speed rpm	: 0.75 : + 0.75 : 1250
LOW IDLE	

		
control lever position degree tolerance degree Testing:	: 87.0 : +- 4.0	Aneroid pressure hPa : 1300 Rated speed rpm : 600 Del. quantity cm3/1000 strokes : 298.5
Rated speed rpm rack travel mm Tolerance mm	: 350 : 5.70 : +- 0.10	cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 5.0 Spreed cm3/1000 strokes : 8.0
Rated speed rpm	: 250	Check tolerance cm3/1000s. : 12.0
CRT mm min.	: > 8.90	+
Rated speed rpm	: 400	Aneroid pressure hPa : 1300 Rated speed rpm : 1050 Del. quantity
TORQUE CONTROL Rated speed rpm	: 1050	cm3/1000 strokes : 225.0 cm3/1000 strokes : +- 2.0 Check tolerance
rack travel mm Tolerance mm		cm3/1000s. : + 5.0
Rated speed rpm rack travel mm Tolerance mm	: 15.00	+ Aneroid pressure + hPa : - + Rated speed rpm : 500 + Del. quantity + cm3/1000 strokes : 132.0
ANEROID/ALTITUDE COMPENSATOR TEST		cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed
MEASUREMENT		cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0
Pressure hPa Rated speed rpm	: - : 500	BREAKAWAY
Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm	: 500 : 1.40 : +- 0.05 : 1000 : 6.00	Rack travel in mm: 14.00 Rated speed rpm: 1098 Tolerance 1/min: + 8
Tolerance mm	: +- 0.20	STARTING FUEL DELIVERY
START CUT-OUT		Rated speed rpm : 100 Del. quantity
Rated speed rpm Rated speed rpm	: > 210 : < 270	cm3/1000 strokes : 280.0 cm3/1000 strokes : +- 10.0 Check tolerance
Check speed 1/min Check	: > 190	cm3/1000s. : + 14.0
speed 1/min	: < 290	101 10 5

E01

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm	:	350
Del. quantity cm3/1000 strokes	:	19.0
cm3/1000 strokes Check tolerance	: -	⊢ 3.0
cm3/1000s.	: -	⊢ 6.0
Spreed cm3/1000 strokes	•	6.0
Check tolerance	•	0.0
cm3/1000s.	:	10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 05.11.96 Test oil : ISO 4113

Combination No. : 0 402 676 832

Injection pump

Pump designation : PE6P12OA32OLS7898

EP type number : 0 412 626 957

Governor

Governer design. : RSV350...1000P0A648

Governer no. : 0 421 833 565

Cust. part No. : 0270748202

Customer-spec. information Customer : MB-NFZ : OM441 A Motor : 170.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar :

1.5 ← 0.1

Overflow quantity

min. L/h : 120 Tolerance L/h : +- 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

tolerance mm

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25 : +- 0.05 Tolerance mm Check : **←** 0.10

Rack travel in mm: 20.50

Tolerance mm : \leftarrow 0.50

Firing order : 6-3-5-2-4-

: 1

Phasing : 0-60-120-180-240

: -300

Tolerance : **←** 0.30

Check

tolerance *NW : +- 0.50

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance *NW : +- 0.75

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 980

Rack travel in mm: 11.75

T.)	1 7/4000
Tolerance mm : +- 0.05	+ cm3/1000 strokes : 5.0 + Check tolerance
Del. quantity	+ cm3/1000s. : 9.0
cm3/1000 strokes : 172.0	†
cm3/1000 strokes : + 1.0	T
	+ CONTROL LEVER
Check tolerance	†
cm3/1000s. : +- 4.0	control lever position degree : 93.0
Spreed	tolerance degree : + 4.0
cm3/1000 strokes : 5.0	†
Check tolerance	ASSEMBLY GOVERNOR SETTING
cm3/1000s. : 9.0	+
Rated speed rpm : 350	+ Rated speed rpm : 1030 + rack travel mm : 10.70
Rated speed rpm : 350	rack travel mm : 10.70
	Rated speed rpm : 1105
Rack travel in mm: 5.00	+ Tolerance 1/min : +- 4
Tolerance mm : +- 0.10 Del. quantity	rack travel mm = 4.00
cm3/1000 strokes : 19.0	rack travel mm : 0.85
cm3/1000 strokes : +- 3.0	+ Tolerance mm : + 0.55
Check tolerance	+ Rated speed rpm : 1300
cm3/1000s. : + 6.0	1071
Spreed cm3/1000 strokes : 6.0	Rated speed rpm : 1031 rack travel mm : 10.70
Check tolerance	T rack cravet min : 10.70
cm3/1000s. : 10.0	+ Rated speed rpm : 1106
	+ Tolerance 1/min : + 4
	rack travel mm : 4.00
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	t rack travel mm : 0.85
MILL GOACULOK	+ Toterance mm : +- 0.55
	Rated speed rpm : 1300
	1072
GUIDE SLEEVE POSITION	+ Rated speed rpm : 1032 + rack travel mm : 10.70
Rated speed rpm : 800	T rack travet mm 10.70
·	Rated speed rpm : 1107
Rack travel in mm: 0.50	+ Tolerance 1/min : + 4
Tolerance mm : +- 0.20	rack travel mm : 4.00
governor spring	Track travel mm : 0.85
pre-tension	Tolerance mm : + 0.55
click setting $x : 4.50$	Rated speed rpm : 1300
	† Rated speed rpm : 1033
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 10.70
	+
Rated speed rpm : 980	Rated speed rpm : 1108
Aneroid pressure hPa : 1000	+ Tolerance 1/min : +- 4 + rack travel mm : 4.00
hPa : 1000 Del. quantity	T TACK ETAVEL IIIII : 4.00
cm3/1000 strokes : 172.0	rack travel mm : 0.85
cm3/1000 strokes : +- 1.0	Tolerance mm : + 0.55
Check tolerance	Rated speed rpm : 1300
cm3/1000s. : +- 4.0	+ Rated speed rpm : 1034
Spreed	T. vared speed thii . 1004

rack travel mm	: 10.70	+ Tolerance mm	: ← 0.15
		+	
Rated speed rpm			
Tolerance 1/min		+ ANEROID/ALTITUDE	
rack travel mm	: 4.00	+ COMPENSATOR TEST	
most Amount am	. 0.85	†	
rack travel mm	: 0.85 : +- 0.55	† SETTING	
Tolerance mm Rated speed rpm		SETTING	
rated speed This	: 1500	Rated speed rpm	: 400
Rated speed rpm	: 1035	Pressure hPa	
rack travel mm		+ rack travel mm	: 11.75
I GON CI GYCC IIRH	. 10.10	Tolerance mm	
Rated speed rpm	: 1110	1	0.00
Tolerance 1/min	: +- 4	+ MEASUREMENT	
rack travel mm			
		+ Pressure hPa	: -
rack travel mm	: 0.85	+ Rated speed rpm	
Tolerance mm		rack travel mm	
Rated speed rpm		+ Tolerance mm	: + 0.15
	··	+	
		- + Rated speed rpm	: 400
LOW IDLE		†	69 4 6
		+ Pressure hPa	: 360
		+ rack travel mm	: 10.60
control lever		† Tolerance mm	: ← 0.15
position degree tolerance degree	: 73.0	†	/ 00
tolerance degree	: +- 4.0	+ Pressure hPa	: 400
		rack travel mm	
Testing:		† Tolerance mm	: ← 0.15
Dated speed ppm	: 350	1	
Rated speed rpm rack travel mm		I	
Lack Flater IIII	. 5.00	Τ	
Tolerance mm		I FLIEL DELTVERY CHA	ARACTERISTICS
Tolerance mm	: +- 0.10	FUEL DELIVERY CHA	ARACTERISTICS
Tolerance mm rack travel mm	: + 0.10 : 2.00	+	ARACTERISTICS
Tolerance mm rack travel mm Rated speed rpm	: +- 0.10 : 2.00 : 405	Aneroid pressure	
Tolerance mm rack travel mm	: +- 0.10 : 2.00 : 405	Aneroid pressure	: 1000
Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min	: +- 0.10 : 2.00 : 405 : +- 30	Aneroid pressure hPa Rated speed rpm	: 1000
Tolerance mm rack travel mm Rated speed rpm	: +- 0.10 : 2.00 : 405 : +- 30	Aneroid pressure hPa Rated speed rpm Del. quantity	: 1000 : 600
Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min	: ← 0.10 : 2.00 : 405 : ← 30 : 100	Aneroid pressure hPa Rated speed rpm	: 1000 : 600 : 170.0
Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm	: ← 0.10 : 2.00 : 405 : ← 30 : 100	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: 1000 : 600 : 170.0 : + 3.0
Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm	: +- 0.10 : 2.00 : 405 : +- 30 : 100 : > 19.50	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes	: 1000 : 600 : 170.0 : + 3.0
Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min.	: +- 0.10 : 2.00 : 405 : +- 30 : 100 : > 19.50	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	: 1000 : 600 : 170.0 : + 3.0
Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. SET IDLE AUXILIAR	: +- 0.10 : 2.00 : 405 : +- 30 : 100 :> 19.50 RY SPRING	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: 1000 : 600 : 170.0 : + 3.0 : + 6.0
Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min.	: +- 0.10 : 2.00 : 405 : +- 30 : 100 :> 19.50 RY SPRING	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: 1000 : 600 : 170.0 : + 3.0 : + 6.0
Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. SET IDLE AUXILIAR	: +- 0.10 : 2.00 : 405 : +- 30 : 100 :> 19.50 RY SPRING	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes	: 1000 : 600 : 170.0 : + 3.0 : + 6.0
Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. SET IDLE AUXILIAR	: +- 0.10 : 2.00 : 405 : +- 30 : 100 :> 19.50 RY SPRING	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1000 : 600 : 170.0 : + 3.0 : + 6.0 : 8.0
Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. SET IDLE AUXILIAR rack travel mm TORQUE CONTROL	: +- 0.10 : 2.00 : 405 : +- 30 : 100 :> 19.50 RY SPRING : 2.00	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000 strokes Aneroid pressure	: 1000 : 600 : 170.0 : + 3.0 : + 6.0 : 8.0 : 12.0
Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. SET IDLE AUXILIAR rack travel mm TORQUE CONTROL Rated speed rpm	: +- 0.10 : 2.00 : 405 : +- 30 : 100 :> 19.50 RY SPRING : 2.00 : 980	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa	: 1000 : 600 : 170.0 : + 3.0 : + 6.0 : 8.0 : 12.0
Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. SET IDLE AUXILIAR rack travel mm TORQUE CONTROL Rated speed rpm rack travel mm	: +- 0.10 : 2.00 : 405 : +- 30 : 100 :> 19.50 RY SPRING : 2.00 : 980 : 11.75	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000s. Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. Apreed cm3/1000s. Aneroid pressure hPa Rated speed rpm	: 1000 : 600 : 170.0 : + 3.0 : + 6.0 : 8.0 : 12.0
Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. SET IDLE AUXILIAR rack travel mm TORQUE CONTROL Rated speed rpm	: +- 0.10 : 2.00 : 405 : +- 30 : 100 :> 19.50 RY SPRING : 2.00 : 980 : 11.75	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000s. Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. Apreed cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity	: 1000 : 600 : 170.0 : + 3.0 : + 6.0 : 8.0 : 12.0 : 400 : 400
Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. SET IDLE AUXILIAR rack travel mm TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: +- 0.10 : 2.00 : 405 : +- 30 : 100 :> 19.50 RY SPRING : 2.00 : 980 : 11.75 : +- 0.05	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000s. Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. Apreed cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: 1000 : 600 : 170.0 : + 3.0 : + 6.0 : 8.0 : 12.0 : 400 : 400 : 125.0
Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. SET IDLE AUXILIAR rack travel mm TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: +- 0.10 : 2.00 : 405 : +- 30 : 100 :> 19.50 RY SPRING : 2.00 : 980 : 11.75 : +- 0.05 : 600	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000s. Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. Apreed cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes	: 1000 : 600 : 170.0 : + 3.0 : + 6.0 : 8.0 : 12.0 : 400 : 400 : 125.0
Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. SET IDLE AUXILIAR rack travel mm TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm	: +- 0.10 : 2.00 : 405 : +- 30 : 100 :> 19.50 RY SPRING : 2.00 : 980 : 11.75 : +- 0.05 : 600 : 11.75	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000s. Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. Apreed cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes Check tolerance	: 1000 : 600 : 170.0 : + 3.0 : + 6.0 : 8.0 : 12.0 : 400 : 400 : 125.0 : + 1.0
Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. SET IDLE AUXILIAR rack travel mm TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: +- 0.10 : 2.00 : 405 : +- 30 : 100 :> 19.50 RY SPRING : 2.00 : 980 : 11.75 : +- 0.05 : 600	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes cm3/1000s.	: 1000 : 600 : 170.0 : + 3.0 : + 6.0 : 8.0 : 12.0 : 400 : 400 : 125.0
rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. SET IDLE AUXILIAR rack travel mm TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: +- 0.10 : 2.00 : 405 : +- 30 : 100 : > 19.50 RY SPRING : 2.00 : 980 : 11.75 : +- 0.05 : 600 : 11.75 : +- 0.05	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: 1000 : 600 : 170.0 : + 3.0 : + 6.0 : 8.0 : 12.0 : 400 : 400 : + 1.0 : + 4.0
rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. SET IDLE AUXILIAR rack travel mm TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm Rated speed rpm Rated speed rpm Rated speed rpm	: +- 0.10 : 2.00 : 405 : +- 30 : 100 : > 19.50 RY SPRING : 2.00 : 980 : 11.75 : +- 0.05 : 600 : 11.75 : +- 0.05 : 400	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes cm3/1000s.	: 1000 : 600 : 170.0 : + 3.0 : + 6.0 : 8.0 : 12.0 : 400 : 400 : + 1.0 : + 4.0
rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. SET IDLE AUXILIAR rack travel mm TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: +- 0.10 : 2.00 : 405 : +- 30 : 100 : > 19.50 RY SPRING : 2.00 : 980 : 11.75 : +- 0.05 : 600 : 11.75 : +- 0.05 : 400	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: 1000 : 600 : 170.0 : + 3.0 : + 6.0 : 8.0 : 12.0 : 400 : 400 : + 1.0 : + 4.0

ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 400 : 1000 : 11.75 : + 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 400 : 10.05 : +- 0.15
Rated speed rpm	: 400
Pressure hPa rack travel mm Tolerance mm	: 360 : 10.60 : + 0.15
rack travel mm	: 400 : 10.95 : ← 0.15
rack travel mm Tolerance mm	: 10.95 : + 0.15
rack travel mm Tolerance mm FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity	: 10.95 : + 0.15 RACTERISTICS : 1000 : 600
rack travel mm Tolerance mm FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes	: 10.95 : + 0.15
rack travel mm Tolerance mm FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: 10.95 : + 0.15 RACTERISTICS : 1000 : 600 : 170.0
rack travel mm Tolerance mm Tolerance mm FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes	: 10.95 : + 0.15 RACTERISTICS : 1000 : 600 : 170.0 : + 3.0
rack travel mm Tolerance mm Tolerance mm FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance	: 10.95 : + 0.15 RACTERISTICS : 1000 : 600 : 170.0 : + 3.0 : + 6.0
rack travel mm Tolerance mm Tolerance mm FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000s. Aneroid pressure hPa Rated speed rpm	: 10.95 : + 0.15 RACTERISTICS : 1000 : 600 : 170.0 : + 3.0 : + 6.0 : 8.0 : 12.0 : 400 : 400
rack travel mm Tolerance mm Tolerance mm FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Check tolerance cm3/1000s strokes Check tolerance cm3/1000s. Spreed cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes	: 10.95 : + 0.15 RACTERISTICS : 1000 : 600 : 170.0 : + 3.0 : + 6.0 : 8.0 : 12.0 : 400
FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity	: 10.95 : + 0.15 RACTERISTICS : 1000 : 600 : 170.0 : + 3.0 : + 6.0 : 8.0 : 12.0 : 400 : 400 : 125.0

Aneroid pressure

hPa 500 Rated speed rpm :

Del. quantity

cm3/1000 strokes : 132.0 cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s.

: +- 4.0

Spreed

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 180.0 cm3/1000 strokes : + 10.0

Check tolerance

cm3/1000s. : + 14.0

LOW IDLE

350 Rated speed rpm :

Del. quantity cm3/1000 strokes : 19.0 cm3/1000 strokes : +-3.0

Check tolerance

cm3/1000s. 6.0

Spreed

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s.10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 05.11.96 Edition Test oil : ISO 4113

Combination No. : 0 402 678 831

Injection pump

Pump designation : PE8P120A320LS7901 EP type number : 0 412 628 918

Governor

Governer design. : RSV350...1050P0A651

Governer no. : 0 412 833 568

Cust. part No. : 0270745602

Customer-spec. information Customer : MB-NFZ : 0M442LA Motor Power KW : 297.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 110 Tolerance l/h : + 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 20.50 Tolerance mm : \leftarrow 0.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

Phasing : 0-45-90-135-180

: -225-270-315

: **←** 0.30 Tolerance

Check

tolerance *NW : + 0.50

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 13.80 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 213.0

cm3/1000 strokes : +- 1.5

Check tolerance cm3/1000s. : +- 4.5	RATED SPEED
Spreed cm3/1000 strokes : 5.0	rack travel mm : 12.80 Rated speed rpm : 1075 Tolerance 1/min : +- 5
Check tolerance cm3/1000s. : 9.0	rack travel mm : 4.00
Rated speed rpm : 350	Rated speed rpm : 1145 Tolerance 1/min : + 15
\perp	rack travel mm : 0.85
Rack travel in mm: 5.50	Tolerance mm : +- 0.55
Tolerance mm : + 0.10 + Del. quantity	Rated speed rpm : 1400
cm3/1000 strokes : 19.0	
cm3/1000 strokes : + 3.0 +	
Check tolerance cm3/1000s. : + 6.0	LOW IDLE
Spreed	
cm3/1000 strokes : 8.0 +	control lever
Check tolerance	position degree : 70.0 tolerance degree : +- 4.0
I 12.0	coterance degree . +- 4.0
$\frac{1}{4}$	Testing:
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR +	Rated speed rpm : 350
+	rack travel mm : 5.50
†	Tolerance mm : + 0.10
GUIDE SLEEVE POSITION	rack travel mm : 2.00
Rated speed rpm : 800	Rated speed rpm : 400 Tolerance 1/min : +- 30
Rated speed rpm : 800	Toterance Trimin : 30
Rack travel in mm: 0.50	Rated speed rpm : 100
Tolerance mm : + 0.20	CRT mm min. :> 19.50
<u> </u>	CR! (MI) (1) (1)
FULL LOAD DELIVERY AT FULL LOAD STOP	SET IDLE AUXILIARY SPRING
Rated speed rpm : 1050	rack travel mm : 2.00
Aneroid pressure	
hPa : 1200	TORQUE CONTROL
Del. quantity + cm3/1000 strokes : 213.0 +	TORQUE CONTROL
cm3/1000 strokes : + 1.5	Rated speed rpm : 1050
Check tolerance	rack travel mm : 13.80
cm3/1000s. : + 4.5	Tolerance mm : + 0.05
Spreed + cm3/1000 strokes : 5.0 +	Rated speed rpm : 600
Check tolerance	rack travel mm : 14.00
cm3/1000s. : 9.0 +	Tolerance mm : +- 0.10
†	
<u> </u>	ANEROID/ALTITUDE
CONTROL LEVER	COMPENSATOR TEST
control lever	
position degree : 90.0	
tolerance degree : + 4.0	MEASUREMENT

E08

Pressu	ure hPa	:	_
Rated	speed rpm	:	500

250 Pressure hPa 0.35 rack travel mm : + - 0.05Tolerance mm

800 Pressure hPa rack travel mm 3.25 : + 0.15Tolerance mm

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

1200 Rated speed rpm 600 Del. quantity cm3/1000 strokes : 221.0 cm3/1000 strokes : +- 1.5 Check tolerance cm3/1000s. 4.5 Spreed

cm3/1000 strokes : 8.0 Check tolerance

cm3/1000S.12.0

Aneroid pressure

hPa 500 Rated speed rpm Del. quantity cm3/1000 strokes : 143.0 cm3/1000 strokes : +-1.0 Check tolerance cm3/1000s.4.0 Spreed cm3/1000 strokes : 8.0

BREAKAWAY

Rack travel in mm: 12.80 Rated speed rpm : 1075 Tolerance 1/min : +-

STARTING FUEL DELIVERY

100 Rated speed rpm Del. quantity

250.0 cm3/1000 strokes : cm3/1000 strokes : +- 15.0

Check tolerance

: +- 19.0 cm3/1000S.

LOW IDLE

Rated speed rpm Del. quantity	:	350	
cm3/1000 strokes cm3/1000 strokes	: +-	19.0 3.0	
Check tolerance cm3/1000S. Spreed	: +-	6.0	
cm3/1000 strokes Check tolerance	:	8.0	
cm3/1000s.	:	12.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 05.11.96 Test oil : ISO 4113

Combination No. : 0 402 678 834

Injection pump

Pump designation : PE8P120A320LS7903 EP type number : 0 412 628 920

Governor

Governer design. : RSV600...950POA663

Governer no. : 0 421 833 580

Cust. part No. : 027 074 4602

Customer-spec. information Customer : MB-NFZ : 0M442A Motor Power KW : 250.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Overflow quantity

min. l/h : 170 Tolerance l/h : + 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 2.5 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 20.50 Tolerance mm : \leftarrow 0.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

: 0-45-90-135-180 Phasing

: -225-270-315 : +- 0.30

: +- 0.50

Tolerance Check

Start of delivery mark

tolerance *NW

Tolerance : → 0.10

Check

tolerance *NW : +- 0.50

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 930

Rack travel in mm: 13.40 Tolerance mm: + 0.05 Del. quantity	Check tolerance cm3/1000s. : 9.0
cm3/1000 strokes : 201.0	CONTROL LEVER
cm3/1000 strokes : + 1.0	control lever position degree : 88.0
Check tolerance cm3/1000s. : + 4.0	tolerance degree : + 4.0
Spreed cm3/1000 strokes : 5.0	ASSEMBLY GOVERNOR SETTING
Check tolerance cm3/1000S. : 9.0	Rated speed rpm : 970 rack travel mm : 12.40
Rated speed rpm : 600	Rated speed rpm : 1035 Tolerance 1/min : + 4 rack travel mm : 4.00
Rack travel in mm: 4.30 + Tolerance mm: + 0.10 + Del. quantity + cm3/1000 strokes: 18.0 + Tolerance mm: + 0.10 + Cm3/1000 strokes: 18.0 + Tolerance mm: + 0.10 + Cm3/1000 strokes: 18.0 + Tolerance mm: + 0.10 + Cm3/1000 strokes: 18.0 + Tolerance mm: + 0.10 + Cm3/1000 strokes: 18.0 + Tolerance mm: + 0.10 + Cm3/1000 strokes: 18.0 + Cm3/1000 strokes	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1100
cm3/1000 strokes : + 3.0 + Check tolerance cm3/1000s. : + 6.0 + 6.0	Rated speed rpm : 971 rack travel mm : 12.40
Spreed	Rated speed rpm : 1036 Tolerance 1/min : +- 4 rack travel mm : 4.00
(B) SETTING OF INJECTION PUMP	rack travel mm : 0.85 Tolerance mm : + 0.55
WITH GOVERNOR +	Rated speed rpm : 972 rack travel mm : 12.40
GUIDE SLEEVE POSITION	Rated speed rpm : 1037 Tolerance 1/min : +- 4 rack travel mm : 4.00
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1100
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 973 rack travel mm : 12.40
Rated speed rpm : 930 Aneroid pressure hPa : 1000	Rated speed rpm : 1038 Tolerance 1/min : +- 4 rack travel mm : 4.00
hPa : 1000 + Del. quantity cm3/1000 strokes : 201.0 + Check tolerance	rack travel mm : 0.85 Tolerance mm : +- 0.55
cm3/1000s. : +- 4.0 +	Rated speed rpm : 974 rack travel mm : 12.40
cm3/1000 strokes : 5.0	Rated speed rpm : 1039

Tolerance 1/min rack travel mm	: +-	- 4 4.00	†	1
rack travel mm Tolerance mm Rated speed rpm	: : +-	0.85 - 0.55 1100	+	
Rated speed rpm rack travel mm	:	975 12.40	Ŧ	
Rated speed rpm Tolerance 1/min rack travel mm	: : +-	1040 - 4 4.00	+	
rack travel mm Tolerance mm	: +-	0.85	Ŧ	-
LOW IDLE			- + +	,
control lever position degree tolerance degree	: +-	74.0 4.0	+++++++++++++++++++++++++++++++++++++++	1
Testing:			1	(
Rated speed rpm rack travel mm Tolerance mm	: +-	600 4.30 0.10	+	(
rack travel mm Rated speed rpm Tolerance 1/min	: +-	2.00 630 30	+	; ;
SET IDLE AUXILIAR	Y SPR	ING	Ŧ	(
rack travel mm	:	2.00	+	(
TORQUE CONTROL			T	(
Rated speed rpm rack travel mm Tolerance mm	: +-	930 13.40 0.05	+	Ć
Rated speed rpm rack travel mm Tolerance mm	: : : +-	600 13.70 0.10	+	5 F
ANEROID/ALTITUDE COMPENSATOR TEST			· +	F 0 0
SETTING			I	
Rated speed rpm Pressure hPa	:	500	+	- L

MEASUREMENT

Pressure hPa	:	470
Rated speed rpm	:	500
rack travel mm	:	0.70
Tolerance mm	: +	- 0.05
		500

Rated speed rpm : 500

Pressure hPa : 630 rack travel mm : 1.75 Tolerance mm : +- 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure		
hPa	:	1000
Rated speed rpm	:	600
Del. quantity		
cm3/1000 strokes	:	208.0
cm3/1000 strokes	: +	⊢ 2.0
Check tolerance		

cm3/1000s. : + 5.0 Spreed cm3/1000 strokes : 8.0 Check tolerance

cm3/1000s. : 12.0

Aneroid pressure

hPa : 1000
Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 142.0
cm3/1000 strokes : + 1.0
Check tolerance
cm3/1000s. : + 4.0
Spreed

cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 190.0
cm3/1000 strokes : +- 10.0
Check tolerance
cm3/1000s. : +- 14.0

LOW IDLE

Rated speed rpm	:	600
Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	: +-	18.0
cm3/1000s.	: +-	6.0
Spreed cm3/1000 strokes Check tolerance	:	8.0
cm3/1000s.	:	12.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 06.11.96 Test oil : ISO 4113

Combination No. : 0 402 736 862AA

Injection pump

Pump designation : PES6P110A120RS7214

EP type number : 0 412 716 805

Governor

Governer design. : RQV350...1200PA964

: -30K

Governer no. : 0 421 815 432

Cust. part No. : 3282470

Customer—spec. information
Customer : CUMMINS
Motor : 6CTA-A
Power KW : 213.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40Tolerance °C : \leftarrow 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Overflow quantity

min. l/h : 120 Tolerance l/h : + 5.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 23.0 Tolerance bar : +- 1.0

Prestroke mm : 4.40
Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.30

Check

tolerance °NW : +- 0.50

Start of delivery blocking

*NW after s.o.d. : 6.00

Tolerance : + 0.10

Check

tolerance °NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 900

	+ Rated speed rpm : 372
Rack travel in mm : 13.90	+ Rated speed rpm : 372 + guide sleeve
Tolerance mm : +- 0.05	travel mm : 2.75
TO COT GITTO THE COTO	Tolerance mm : +- 0.25
Del. quantity	-
cm3/1000 strokes : 186.0	Rated speed rpm : 460
	guide sleeve
cm3/1000 strokes : +- 1.0	+ travel mm : 3.76
	Tolerance mm : + 0.25
Check tolerance	+
cm3/1000s. : +- 4.0	Rated speed rpm : 1630
	guide sleeve
Spreed	travel mm : 13.50
cm3/1000 strokes : 5.0	Tolerance mm : +- 0.50
Check tolerance	T
cm3/1000s. : 9.0	GUIDE SLEEVE POSITION
CIRD/ 10000: . /.0	GOIDE SEELVE 100111014
Rated speed rpm : 300	Rated speed rpm : 1400
	+
	Rack travel in mm: 12.90
Rack travel in mm: 6.50	Tolerance mm : +- 1.30
Tolerance mm : + 0.10	†
Del. quantity	
cm3/1000 strokes : 43.0	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes : + 3.0	Rated speed rpm : 900
Check tolerance cm3/1000s. : + 5.0	+ Rated speed rpm : 900 + Aneroid pressure
Spreed	hPa : 1000
cm3/1000 strokes : 8.0	Del. quantity
Check tolerance	cm3/1000 strokes : 186.0
cm3/1000s. : 12.0	cm3/1000 strokes : +- 1.0
•	Check tolerance
•	+ cm3/1000s. : +- 4.0
(B) SETTING OF INJECTION PUMP	Spreed
WITH GOVERNOR -	cm3/1000 strokes : 5.0
•	Check tolerance
CUIDE OF FEVE TOWER	- cm3/1000s. : 9.0
GUIDE SLEEVE TRAVEL -	
Rated speed rpm : 300	
guide steeve	CONTROL LEVER
travel mm : 1.76	
Tolerance mm : + 0.25	control lever
-	position degree : 60.0
Rated speed rpm : 1269 -	tolerance degree : +- 4.0
guide sleeve -	
travel mm : 9.75	control lever
Tolerance mm : + 0.25	position degree : 112.0
Rated speed rpm : 829	tolerance degree : +- 4.0
Rated speed rpm : 829 - guide sleeve -	RATED SPEED
travel mm : 6.79	- MATER OF EED
Tolerance mm : + 0.25	rack travel mm : 13.65
	Rated speed rpm : 1150
Rated speed rpm : 322	Tolerance 1/min : + 5
guide sleeve	}
travel mm : 1.98 -	rack travel mm : 4.00
Tolerance mm : +- 0.25	Rated speed rpm : 1360
-	Tolerance 1/min : +- 15

rack travel mm Tolerance mm Rated speed rpm	: +- 0.50	† † † †	Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: 8.50 : + 0.20
LOW IDLE		 	Pressure hPa rack travel mm Tolerance mm	: 14.30
control lever position degree tolerance degree	: 66.0 : + 4.0	† † †	Pressure hPa rack travel mm Tolerance mm	: 340 : 10.40 : + 0.05
control lever position degree tolerance degree	: 14.0 : +- 4.0	+	START CUT-OUT	
Testing:		‡	Rated speed rpm Rated speed rpm	: > 100 : < 220
Rated speed rpm rack travel mm Tolerance mm	: 6.50	† + +	Check speed 1/min Check speed 1/min	
Rated speed rpm	: 200	‡		
CRT mm min.	: > 7.65	‡	FUEL DELIVERY CHA	ARACTERISTICS
Rated speed rpm	: 423	‡	Aneroid pressure hPa Rated speed rpm	: 1000
TORQUE CONTROL		‡	Del. quantity cm3/1000 strokes	: 180.0
Rated speed rpm rack travel mm Tolerance mm	: 900 : 13.90 : + 0.05	‡	cm3/1000 strokes Check tolerance cm3/1000s.	
Rated speed rpm rack travel mm Tolerance mm	: 700 : 12.90 : + 0.35	Ī	Spreed cm3/1000 strokes Check tolerance cm3/1000s.	
Rated speed rpm rack travel mm Tolerance mm	: 1100 : 14.60	+	Aneroid pressure hPa Rated speed rpm	: -
ANEROID/ALTITUDE COMPENSATOR TEST		‡	Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	
		‡	cm3/1000s.	: +- 6.0
SETTING	4460	‡	Aneroid pressure	: -
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1100 : 1200 : 14.60 : + 0.05	‡	Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	: 104.0
MEASUREMENT		Ī	cm3/1000s.	: ← 4.0
Pressure liPa	: -	+		

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BREAKAWAY

Rack travel in mm : 13.65
Rated speed rpm : 1150
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 11.20 Del. quantity cm3/1000 strokes : 155.0 cm3/1000 strokes : + 20.0 Check tolerance cm3/1000s. : + 25.0

LOW IDLE

Rated speed rpm : 300
Del. quantity
cm3/1000 strokes : 43.0
cm3/1000 strokes : + 3.0
Check tolerance
cm3/1000s. : + 5.0
Spreed
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 31.10.96 Test oil : ISO 4113

Combination No. : 0 402 746 605

Injection pump

Pump designation : PES6P120A320RS7324 EP type number : 0 412 726 905

Governor

Governer design. : RQV300...920/1200PA1

: 260

Governer no. : 0 421 814 170

Cust. part No. : 51.11103-7461

Customer-spec. information

Customer : MAN

: DO826LF11/LFL03 Motor

Power KW : 162.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

40 temp. °C Tolerance °C : +- 2.0

Overflow valve : 2 417 413 087

Inlet press. bar : 3.0 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 105 Tolerance l/h : +- 10.0

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

: 207.0 bar Tolerance bar : +- 3.0 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.15 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 12.00 Tolerance mm : \leftarrow 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

: +- 0.30 Tolerance

Check

tolerance *NW : +- 0.50

Start of delivery blocking

Tolerance : +- 0.10

Check

tolerance 'NW : **←** 0.75

: 1 Barrel no.

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 5.00

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Tolerance mm	: + 0.10	+	guide sleeve	. 4.77
Del. quantity	70.0	 ‡	travel mm Tolerance mm	: 1.64 : + 0.20
cm3/1000 strokes	: 70.0	1	Rated speed rpm	: 1256
cm3/1000 strokes	: +- 8.0	+	guide sleeve	
Charle tal anones			travel mm	: 10.36 : ~ 0.15
Check tolerance cm3/1000s.	: +- 11.0	Ţ	Tolerance mm	: ~ 0.15
		+	Rated speed rpm	: 1238
Spreed		†	guide sleeve travel mm	: 10.09
cm3/1000 strokes	: 3.5	Į	Tolerance mm	: + 0.25
		+	5	440
Check tolerance cm3/1000s.	; 9.0	<u>†</u>	Rated speed rpm guide sleeve	: 660
CIID/ 10005.	. 7.0	I	travel mm	: 5.62
Rated speed rpm	: 1000	+	Tolerance mm	: +- 0.25
		+	Dakad	
Rack travel in mm	: 12 45	İ	Rated speed rpm guide sleeve	: 1400
Tolerance mm		1	travel mm	: 13.50
		+	Tolerance mm	: + 0.50
Del. quantity cm3/1000 strokes	: 202.0	+		
cm3/1000 strokes	: 202.0	I	GUIDE SLEEVE POSI	TTON
cm3/1000 strokes	: ← 1.0			
6 65-1 4 -1-3		+	Rated speed rpm	: 1330
Check tolerance cm3/1000S.	: +- 4.0	Ī	Rack travel in mm	: 11.45
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			Tolerance mm	
preed	0.0	+		
m3/1000 strokes	: 8.0	‡	FULL LOAD DELIVERY	AT FULL LOAD STOP
heck tolerance		+		
:m3/1000s.	: 12.0	†	Rated speed rpm	: 1000
Rated speed rpm	: 300	1	Aneroid pressure hPa	: 1500
THE PERSON IN	. 200	+	Del. quantity	
- · · · · · ·		+	cm3/1000 strokes	
Rack travel in mm		†	cm3/1000 strokes	: +- 1.0
Tolerance mm Del. quantity	0.10	1	Check tolerance cm3/1000s.	: +- 4.0
cm3/1000 strokes	: 36.0	I	Spreed	• • •••
cm3/1000 strokes		+	cm3/1000 strokes	: 8.0
Check tolerance		+	Check tolerance	
cm3/1000s. Spreed	: +- 6.0	İ	cm3/1000s.	: 12.0
cm3/1000 strokes	: 8.0	Ţ		
Check tolerance		+		
cm3/1000s.	: 14.0	†	CONTROL LEVER	
		1	control lever	
(B) SETTING OF INJE	ECTION PUMP		position degree	: 302.0
WITH GOVERNOR	-	+	tolerance degree	
			RATED SPEED	
GUIDE SLEEVE TRAVEL			MATEN SPEED	
		+	rack travel mm	: 11.45
Rated speed rpm	: 300	+	Rated speed rpm	: 1245

Tolerance 1/min	: ← 5	1	Pressure hPa Rated speed rpm	: - : 500
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1330 : + 15	+	rack travel mm Tolerance mm	: 8.10
rack travel mm	: 0.25	1	Rated speed rpm	: 500
Tolerance mm Rated speed rpm	: +- 0.25	+	Pressure hPa rack travel mm Tolerance mm	: 140 : 8.45 : + 0.05
LOW IDLE			Pressure hPa rack travel mm Tolerance mm	: 700 : 11.50 : + 0.15
control lever position degree tolerance degree		+	START CUT-OUT	
Testing:		+	Rated speed rpm Rated speed rpm	
Rated speed rpm rack travel mm Tolerance mm	: 5.70	Ī	Check speed 1/min Check	: > 200
Rated speed rpm	: 200	‡	speed 1/min	: < 260
CRT mm min.	: > 8.40	+	FUEL DELIVERY CHA	RACTERISTICS
Rated speed rpm	: 360		Aneroid pressure hPa	: 1500 : 1200
TORQUE CONTROL			Rated speed rpm Del. quantity cm3/1000 strokes	
Rated speed rpm rack travel mm Tolerance mm	: 12.45	I	cm3/1000 strokes Check tolerance cm3/1000s.	: ← 3.0
Rated speed rpm rack trave! mm Tolerance mm	: 12.45	-	Aneroid pressure hPa Rated speed rpm Del. quantity	: 1500 : 750
Rated speed rpm rack travel mm Tolerance mm	: 12.45		cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	
ANEROID/ALTITUDE COMPENSATOR TEST			Aneroid pressure hPa Rated speed rpm	: - : 500
SETTING		-	Del. quantity cm3/1000 strokes cm3/1000 strokes	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1500 : 12.45 : + 0.05	<u> </u>	Check tolerance cm3/1000s.	
MEASUREMENT		+	BREAKAWAY	
		+		

Rack travel in mm : 11.45
Rated speed rpm : 1245
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 189.0

cm3/1000 strokes : \leftarrow 15.0

Check tolerance

cm3/1000s. : + 19.0

LOW IDLE

Rated speed rpm : 300
Del. quantity
cm3/1000 strokes : 36.0
cm3/1000 strokes : + 3.0
Check tolerance
cm3/1000s. : + 6.0
Spreed
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000s. : 14.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 04.11.96 Test oil : ISO 4113

Combination No. : 0 402 796 814

Injection pump

Pump designation : PES6P120A720RS7367

EP type number : 0 412 726 932

Governor

Governer design. : RE30

Governer no. : 0 421 890 026

Cust. part No. :

Customer-spec. information

Customer : IVECO-FRANCE Motor : 8460.41.6000

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 076

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS No basic setting. Setting of constant delivery under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance *NW : + 0.75

Start of delivery blocking

Check

tolerance *NW : + 0.40

Barrel no. : 1

(B) POSITIONER TESTING Warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR **POSITION**

Engine speed min-1:

Setting point (P, R and H pump)

: 3.100 : 13.00 Uact V CRT mm Tolerance mm : ± -0.05

Check

tolerance mm : +/- 0.10

Check value (P, R and H pump)

Uact V : 1.700 CRT mm : 6.15 : +/- 0.25 Tolerance mm

Check

tolerance mm : ± -0.30

Setting point (amua M)

: 3.100 : 12.50 Uact V CRT mm : +/- 0.05 Tolerance mm

Check

tolerance mm : +/- 0.10

Check value (amua M)

Uact V 1.700 5.50 CRT mm : +/- 0.25 Tolerance mm Check tolerance mm : +/- 0.30

Stop position

Uact V : Value with

> deenergised adjusting magnet and control rod in

stop position.

: 0.75 CRT mm : +/- 0.25 Tolerance mm

Check

: +/- 0.35 tolerance mm

ENGINE-SPEED SENSOR (All P and R pumps not H and M pumps)

Test with control rod in stop position

Engine speed min-1: 60
Amplitude V: 1.4
Tolonopae V: +/- 0.4 Tolerance V : +/- 0.6

Check

tolerance V : -/- 1.20

Engine speed min-1: 600

Difference Amplitude to

Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 1050 : 2.900 Uact V

Del. quantity

cm3/1000 strokes : 296.0 cm3/1000 strokes : + 1.0

Check tolerance : +cm3/1000s. 4.0

Spreed

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s.9.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 500 Uact V 2.690

Del. quantity

cm3/1000 strokes : 238.0 cm3/1000 strokes : +- 3.0

Check tolerance

cm3/1000s. : +- 6.0

TEST POINT L1

Rated speed rpm : 275 Uact V : 1.640 Tolerance Volt : +- 0.030

Check tolerance

: +- 0.060Volt

Del. quantity

cm3/1000 strokes : 24.0 cm3/1000 strokes : \leftarrow 3.0

Spreed

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. 12.0

End of test specification sheet

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Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.11.96 Test oil : ISO 4113

Combination No. : 0 403 456 122A

Injection pump

Pump designation : PES6MW100/321RS1201

EP type number : 0 413 406 190

Governor

Governer design. : RQ250/1200MW84-13 Governer no. : 0 420 082 068

Cust. part No. : 3-7561

Customer-spec. information

Customer : MAN

Motor : D 0826 LOH13

Power KW : 151.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 3.55 Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 15.00

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance *NW : + 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.00

Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 123.0

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. : + 3.0

Spreed cm3/1000 strokes : 3.5	guide sleeve travel mm : 11.50 Tolerance mm : +- 0.50
Check tolerance cm3/1000s. : 6.0	Rated speed rpm : 1059
Rated speed rpm : 250	guide sleeve travel mm : 7.23 Tolerance mm : ~ 0.10
Rack travel in mm: 5.70	
Tolerance mm : + 0.10 Del. quantity	GUIDE SLEEVE POSITION
cm3/1000 strokes : 22.0	Rated speed rpm : 600
cm3/1000 strokes : +- 2.0	•
Check tolerance	Rack travel in mm : 16.50
cm3/1000s. : + 4.5 Spreed	Tolerance mm : + 0.80
cm3/1000 strokes : 3.5	FILL LOAD DELTHERY AT SHILL LOAD STOR
Check tolerance cm3/1000s. : 5.5	FULL LOAD DELIVERY AT FULL LOAD STOP
VIII.7 10000	Rated speed rpm : 1000
<u> </u>	Aneroid pressure
(B) SETTING OF INJECTION PUMP	hPa : 1000
WITH GOVERNOR +	Del. quantity
†	cm3/1000 strokes : 123.0
GUIDE SLEEVE TRAVEL	cm3/1000 strokes : +- 1.0 Check tolerance
GOIDE SEEEVE TRAVEL	cm3/1000s. : + 3.0
Rated speed rpm : 250	Spreed
guide sleeve	cm3/1000 strokes : 3.5
travel mm : 1.66 +	Check tolerance
Tolerance mm : + 0.10	cm3/1000s. : 6.0
Pated and during 1257	
Rated speed rpm : 1257 + guide sleeve +	
travel mm : 7.61	CONTROL LEVER
Tolerance mm : + 0.10	
+	control lever
Rated speed rpm : 1200	position degree : 102.0
guide sleeve	tolerance degree : +- 4.0
travel mm : 7.30 + Tolerance mm : + 0.10 +	DATED SDEED
Toterance mm : TO U. TO	RATED SPEED
Rated speed rpm : 912	rack travel mm : 10.40
guide sleeve	Rated speed rpm : 1253
travel mm : 7.08	Tolerance 1/min : +- 8
Tolerance mm : + 0.10 +	
Pated aread area . 750	rack travel mm : 4.00
Rated speed rpm : 359 + guide sleeve +	Rated speed rpm : 1305 Tolerance 1/min : +- 15
travel mm : 3.70	Total differ 17 million 19
Tolerance mm : + 0.10	rack travel mm : 0.50
+	
Rated speed rpm : 520 + guide sleeve +	Tolerance mm : +- 0.50 Rated speed rpm : 1400
travel mm : 7.00	
Tolerance mm : + 0.10	
+	LOW IDLE
Rated speed rpm : 1380	

		†
control lever position degree tolerance degree	: 73.0 : ← 4.0	FUEL DELIVERY CHARACTERISTICS
Testing:		+ Aneroid pressure + hPa : 1000
resting:		Rated speed rpm : 700
Rated speed rpm	: 250	+ Del. quantity
rack travel mm	: 5.70	- cm3/1000 strokes : 123.0
Tolerance mm	: + 0.10	+ cm3/1000 strokes : +- 1.5 + Check tolerance
Rated speed rpm	: 150	cm3/1000s. : +- 4.0 + Spreed
CRT mm min.	: > 7.00	+ cm3/1000 strokes : 5.0
		+ Check tolerance
TORQUE CONTROL		
TONGOE CONTROL		Aneroid pressure
Rated speed rpm	: 1000	+ hPa : 1000
rack travel mm Tolerance mm	: 12.00	Rated speed rpm : 1200
loterance mm	: 0.05	+ Del. quantity + cm3/1000 strokes : 119.0
Rated speed rpm	: 700	+ cm3/1000 strokes : +- 1.5
rack travel mm	: 12.20	- Check tolerance
Tolerance mm	: + 0.10	$\frac{1}{1}$ cm3/1000s. : + 4.0
Rated speed rpm	: 1200	Aneroid pressure
rack travel mm Tolerance mm	: 11.40	+ hPa : −
Tolerance mm	: ← 0.10	+ Rated speed rpm : 500
		+ Del. quantity + cm3/1000 strokes : 75.0
ANEROID/ALTITUDE		- cm3/1000 strokes : + 1.0
COMPENSATOR TEST		+ Check tolerance
		+ cm3/1000s. : +- 3.0
SETTING		<u> </u>
02111110		BREAKAWAY
Rated speed rpm	: 500	†
Pressure hPa rack travel mm		+ Rack travel in mm : 10.40
Tolerance mm		Rated speed rpm : 1253
		Tolerance 1/min : +- 8
MEASUREMENT		‡
Pressure hPa	: -	
Rated speed rpm		+ STARTING FUEL DELIVERY
rack travel mm Tolerance mm	: 10.35 : +- 0.05	Rated speed rpm : 100
rocerance min	. += 0.05	rack travel mm : 10.35
Rated speed rpm	: 500	+ Tolerance mm : + 0.50
Burney to be	. 750	Del. quantity
Pressure hPa rack travel mm	: 350 : 11.60	+ cm3/1000 strokes : 70.0 + cm3/1000 strokes : +- 10.0
Tolerance mm		+ Check tolerance
		+ cm3/1000s. : +- 13.0
Pressure hPa	: 150	†
rack travel mm Tolerance mm		Ī
TOTAL GITTE INH	0.07	
		+ LOW IDLE

Rated speed rpm	:		250
Del. quantity cm3/1000 strokes	;		22.0
cm3/1000 strokes	:	+-	2.0
Check tolerance			
cm3/1000s.	:	+-	4.5
Spreed			
cm3/1000 strokes	:		3.5
Check tolerance			
cm3/1000s.	:		5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 07.11.96 Edition : ISO 4113 Test oil

Combination No. : 0 401 876 345

Injection pump

Pump designation : PE6P120B320RS3301 EP type number : 0 411 826 819

Governor

Governer design. : RSV250...1100P0A656

Governer no. : 0 421 833 574

Cust. part No. : 3826519 PO1 v. 10/96

Customer-spec. information Customer : PENTA : TAMD 102 D Motor Power KW : 315.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Vibration damper

(RoBo diaphragm) : 4.1

Test oil inlet

temp. °C : + 2.0 Tolerance °C

Overflow valve : 2 417 413 077

1.5 Inlet press. bar : Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm : 3.45
Tolerance mm : + 0.05 Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 8.10 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

: +- 0.30 Tolerance

Check

tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 13.10

Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes	: 275.0	+ Chec + cm3/	
cm3/1000 strokes	: + 1.0	‡	
Check tolerance cm3/1000s.	: + 4.0	CONT	
-		+ cont	
Spreed cm3/1000 strokes	: 7.0	+ posi + tole	
Check tolerance		Cont	20
cm3/1000s.	: 11.0	posi	
CID7 10003.	. ,,,,	tole	
Pated speed spe	: 250	T	ı a
Rated speed rpm	: 250	T RATE	
		TRAIL	V
Dool doored in me	. 4 20	T	_
Rack travel in mm		rack	
Tolerance mm	: ← 0.10	+ Rate	
Del. quantity	2/ 2	† Tole	ra
cm3/1000 strokes	: 24.0	† .	
cm3/1000 strokes	: +- 2.5	+ rack	
Check tolerance		+ Rate	
cm3/1000S.	: +- 5.0	+ Tole	ra
Spreed		+	
cm3/1000 strokes	: 3.0	+ rack	
Check tolerance		+ Tole	ra
cm3/1000s.	: 6.0	+ Rate	d
		+	
(B) SETTING OF INJ WITH GOVERNOR	ECTION PUMP	rack Rate	
		+ LOW	ID
GUIDE SLEEVE POSIT	ION	+	
Rated speed rpm	: 800	I cont	no.
Rated Speed Chin	: 800	+ posi	
Rack travel in mm	: 0.50	1 ' .	
	: + 0.20	† tole	r a
Tolerance mm	0.20	I cont	-
		posi	
governor spring		tole	
pre-tension	: 2.25	T	1.91
click setting x	. 2.23	I Sett	in
		1	****
FULL LOAD DELIVERY	AT FULL LOAD STOP	Rate	d :
		rack	
Rated speed rpm	: 1100	1	
Aneroid pressure		+ Test	in
hPa	: 1500	+	
Del. quantity		Rate	d ·
cm3/1000 strokes	: 275.0	rack	
cm3/1000 strokes		Tole	
Check tolerance	• • • • • • • • • • • • • • • • • • • •	1	aı
cm3/1000s.	: + 4.0	T rack	+
	• • • • • • •	Rate	
Spreed cm3/1000 strokes	: 7.0	Tole	
CHO/ LOUD STLOKES	. 1.0	I	91

Check tolerance cm3/1000s.	: 11.0
CONTROL LEVER	
control lever position degree tolerance degree	
control lever position degree tolerance degree	: 94.0 : +- 4.0
RATED SPEED	
rack travel mm Rated speed rpm Tolerance 1/min	: 12.10 : 1145 : +- 5
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1230 : +- 15
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : + 0.55 : 1350
rack travel mm Rated speed rpm	: 4.00 : 1240
LOW IDLE	
control lever position degree tolerance degree	: 69.0 : + 4.0
control lever position degree tolerance degree	: 19.0 : + 4.0
Setting point w/o	ut bumper spring
Rated speed rpm rack travel mm	
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 250 : 6.20 : + 0.10
rack travel mm Rated speed rpm Tolerance 1/min	

TORQUE CONTROL

Rated speed rpm : 1100 rack travel mm : 13.10 Tolerance mm : + 0.05

Rated speed rpm : 700 rack travel mm : 13.10 Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500 Pressure hPa : 1500
rack travel mm : 13.10
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa Rated speed rpm : 500 rack travel mm : 8.10 Tolerance mm : + 0.10

Rated speed rpm : 500

Pressure hPa : 1120 rack travel mm : 4.70 Tolerance mm : + 0.15

Pressure hPa : 160 rack travel mm : 0.25 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

1500 hPa Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 299.0 cm3/1000 strokes : + 3.0 Check tolerance : +- 6.0 cm3/1000s. Spreed cm3/1000 strokes : 8.0 Check tolerance : 12.0 Aneroid pressure

Rated speed rpm : 700 Del. quantity

cm3/1000 strokes : 148.0 cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : - 4.0

BREAKAWAY

Rack travel in mm : 12.10 Rated speed rpm : 1145 Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 15.00
Tolerance mm : + 0.50

LOW IDLE

Rated speed rpm : 250 Del. quantity cm3/1000 strokes : 2 cm3/1000 strokes : +-24.0 2.5 Check tolerance cm3/1000s. : **←** 5.0 Spreed cm3/1000 strokes : 3.0 Check tolerance : cm3/1000s. 6.0

End of test specification sheet

cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 08.11.96 Edition

Test oil : ISO 4113

Combination No. : 0 402 846 302

Injection pump

Pump designation : PE6P120A320RS8520 EP type number : 0 412 826 202

Governor

Governer design. : RQV275...1000PA1269K

Governer no. : 0 421 815 969

Cust. part No. : 1310222/2

Customer-spec. information Customer : DAF

: XF 355 M Motor : 355.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Overflow quantity

min. L/h : 110 Tolerance L/h : + 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

: 4.85 : + 0.05 Prestroke mm Tolerance mm

Check

: + 0.10 tolerance mm

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

: +- 0.50 tolerance "NW

Start of delivery mark

: +- 0.10 Tolerance

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 980

Rack travel in mm: 14.15

Tolerance mm : + 0.05

F04

	+	Rated speed rpm : 1123
Del. quantity cm3/1000 strokes	: 353.0	Rack travel in mm : 13.20 Tolerance mm : + 2.70
cm3/1000 strokes	: + 1.0	
Check tolerance cm3/1000s.	: + 5.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Spreed		Rated speed rpm : 980 Aneroid pressure
cm3/1000 strokes	: 6.0	hPa : 1500 Del. quantity
Check tolerance cm3/1000s.	: 12.0	cm3/1000 strokes : 353.0 cm3/1000 strokes : +- 1.0 Check tolerance
Rated speed rpm	: 275	cm3/1000s. : +- 5.0 Spreed
Rack travel in mm	: 4.50	cm3/1000 strokes : 6.0 Check tolerance
Tolerance mm Del. quantity	: + 0.10	cm3/1000s. : 12.0
cm3/1000 strokes cm3/1000 strokes		
Check tolerance cm3/1000s.	: + 6.0	CONTROL LEVER
Spreed	}	control lever
cm3/1000 strokes Check tolerance	: 8.0	position degree : 118.0 tolerance degree : +- 4.0
cm3/1000s.	: 13.0	RATED SPEED
(B) SETTING OF IN	JECTION PUMP	rack travel mm : 13.15 Rated speed rpm : 1050
	+	Tolerance 1/min : +- 5
GUIDE SLEEVE TRAV	EL	rack travel mm : 4.00 Rated speed rpm : 1160
Rated speed rpm guide sleeve	+	Tolerance 1/min : +- 15
	: 2.04	rack travel mm : 0.70 Tolerance mm : + 0.70
Tolerance mm	: + 0.20	Rated speed rpm : 1275
Rated speed rpm guide sleeve	+	
travel mm	: 10.06 : + 0.15	
Tolerance mm	: + 0.15	LOW IDLE
Rated speed rpm	: 399	control lever
guide sleeve	; 3.39	position degree : 73.0
travel mm Tolerance mm	÷ + 0.25	tolerance degree : +- 4.0
Rated speed rpm	: 1260	Testing:
gurae steeve	: 13.50	Rated speed rpm : 275
guide sleeve travel mm Tolerance mm	· + 0.50	rack travel mm : 450
TOTEL GITTE HIN		rack travel mm : 4.50 Tolerance mm : +- 0.10

CRT mm min.	: > 6.00
Rated speed rpm	: 300
TORQUE CONTROL	
Rated speed rpm	: 980
rack travel mma	: 14.15
Tolerance mma	: + 0.05
Rated speed rpm	: 800
rack travel mm	: 13.85
Tolerance mm	: ← 0.10
Rated speed rpm	: 750
rack travel mm	: 13.45
Tolerance mm	: ← 0.05
Rated speed rpm	: 700
rack travel mm	: 13.05
Tolerance mm	: ← 0.10
Rated speed rpm	: 600
rack travel mm	: 12.50
Tolerance mm	: ← 0.10
Rated speed rpm	: 500
rack travel mm	: 12.25
Tolerance mm	: ← 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm	: 980
Pressure hPa	: 1500
rack travel mm	: 14.15
Tolerance mm	: + 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: 980 : 8.95 : + 0.10
Rated speed rpm	: 980
Pressure hPa	: 750
rack travel mm	: 12.90
Tolerance mm	: +- 0.05
Pressure hPa	: 380
rack travel mm	: 10.30
Tolerance mm	: + 0.10

FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity	: 1500 : 750
cm3/1000 strokes cm3/1000 strokes Check tolerance	: 351.0 : + 2.0
cm3/1000s. Spreed	: + 6.0
cm3/1000 strokes Check tolerance	: 10.0
cm3/1000s.	: 15.0
Aneroid pressure hPa Rated speed rpm	: -
Del. quantity cm3/1000 strokes	: 200.0
cm3/1000 strokes Check tolerance	: + 1.0
cm3/1000s. Spreed	: + 5.0
cm3/1000 strokes Check tolerance	: 10.0
cm3/1000s.	: 15.0
BREAKAWAY	
Rack travel in mm Rated speed rpm Tolerance 1/min	: 13.15 : 1050 : ← 5

LOW IDLE Rated speed rpm : 275 Del. quantity cm3/1000 strokes : 18.0 cm3/1000 strokes : + 3.0 Check tolerance cm3/1000S. : + 6.0 Spreed

cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 13.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 07.11.96 Edition Test oil : 150 4113

Combination No. : 0 402 946 014

Injection pump

Pump designation : PES6P120A720LS8037

EP type number : 0 412 926 024

Governor

Governer design. : RQV250...1050PA1236K

Governer no. : 0 421 815 970

Cust. part No. : 1370101

Customer-spec. information Customer : SCANIA : DSC1202 Motor

TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet

temp. °C 40 Tolerance *C : + 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 85
Tolerance L/h : + 10.0

Test nozzle holde

: 1 688 901 104 assembly

Opening pressure

: 251.5 ber Tolerance bar : + 1.5 Test Lines : 1 680 750 008

Outside diameter : 6.0

2.0 x inside diameter: x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.40 Tolerance mm : + 0.05 Check

tolerance mm: \leftarrow 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-: 4

: 0-60-120-180-240 Phasing

: -300

: + 0.30Tolerance

Check

tolerance *NW : + 0.50

Start of delivery blocking

*NW after s.o.d. : 180.00

Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

: 1 Barrel no.

BASIC SETTING

Rated speed rpm : 775

	1	Rated speed rpm	: 1310
Rack travel in mm : 14	4 N5 ↓	guide sleeve	, ,,,,
Tolerance mm : +- (travel mm	: 13.50
TOCCI CALLECTION	1	Tolerance mm	
Del. quantity	<u> </u>	roter arree may	0.50
	30.0		
CHOVIOOD SCIONES . S.	J	GUIDE SLEEVE POSIT	TTON
cm3/1000 strokes : +-	10	GOIDE SEEENE LOSI	I TOIA
Chis/ 1000 Strokes : -	1.0	Rated speed rpm	. 1170
Charle dellarance	T	Rated speed rpill	: 1170
Check tolerance	10.0	Dook troval do mo	. 12 10
cm3/1000s. : \leftarrow 1	10.0	Rack travel in mm	
Connect	T	Tolerance mm	: +- 1.30
Spreed cm3/1000 strokes :	· n		
cms/ lucu strokes :	•.0	FULL LOAD DELTUED	V AT FULL I
Obsol, Aslanana		FULL LOAD DELIVERY	I AI FULL L
Check tolerance	14.0	Dated around sur-	. 775
cm3/1000s. : 1	14.0		: 775
Date of accord non-	T .	Aneroid pressure	: 1500
Rated speed rpm : 25	·	hPa	: 1500
	Ť	Del. quantity	. 770 (
manta Amarant Paramaran d	, (D	cm3/1000 strokes	330.0
Rack travel in mam: 4		cm3/1000 strokes	: +- 1.0
Tolerance mm : +- C	7.30	Check tolerance	: + 10.0
Del. quantity	t .	cm3/1000s.	: + 10.0
cm3/1000 strokes : 1		Spreed	0.6
cm3/1000 strokes : +-	3.0	cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s. : +-	, a †	Check tolerance	â, c
	0.0	cm3/1000s.	: 14.0
Spreed	, a †		
cm3/1000 strokes :	4.0		
Check tolerance	1	0017704 1577	
cm3/1000s. :	8.0	CONTROL LEVER	
	†		
(0) 00000110 00 0111000001	T	control lever	. /7 6
(B) SETTING OF INJECTION	PUMP	position degree	
WITH GOVERNOR	†	tolerance degree	: +- 4.0
	†	andred town	
CUIDE OF FELE TOAUE		control lever	: 121.0
GUIDE SLEEVE TRAVEL	Ť	position degree	
Bahad ====d === . 25	·	tolerance degree	: +- 4.0
Rated speed rpm : 25	¹⁰ T	RATED SPEED	
guide steeve	.79	KATED SPEED	
	1.20	rack travel mm	: 12.10
roterance mm : +- U	T	Rated speed rpm	: 1095
Rated speed rpm : 111	∠ I	Tolerance 1/min	: +- 5
Rated speed rpm : 111 guide sleeve	ı	Toterance Trimin	
	1.09	rack travel mm	: 4.00
Tolerance mm : +- 0		Rated speed rpm	: 1180
Toterance in	'''' I	Tolerance 1/min	: +- 15
Rated speed rom : 64	, I	rocerance main	
	Ī	račk travel mm	: 0.50
guide sleeve travel mm : 4	47	Tolerance mm	: + 0.50
	1.25	Rated speed rpm	: 1300
ioterance min : +- U	T	varen sheen thu	. 1300
Rated speed rpm : 29	n T		
	-		
guide sleeve	1	LOW IDLE	- -
_	.62	TOM INTE	
Tolerance mm : +- 0	.25		
	+		

guide sleeve travel mm	: 13.50
Tolerance mm	: + 0.50
GUIDE SLEEVE POSIT	LION
Rated speed rpm	: 1170
Rack travel in mm Tolerance mm	: 12.10 : + 1.30
FULL LOAD DELIVERY	AT FULL LOAD STOP
Rated speed rpm Aneroid pressure	: 775
hPa Del. quantity	: 1500
cm3/1000 strokes	: 330.0 : +- 1.0
Check tolerance cm3/1000s.	
Spreed cm3/1000 strokes	
Check tolerance cm3/1000s.	4
CM3/ 1000\$,	: 14.0
CONTROL LEVER	
control lever position degree	: 63.0
tolerance degree	: +- 4.0
control lever position degree	: 121.0
	: +- 4.0
RATED SPEED	
rack travel mm Rated speed rpm	: 12.10 : 1095
Tolerance 1/min	: +- 5
rack travel mm Rated speed rpm	: 4.00 : 1180
Tolerance 1/min	: + 15
račk travel mm Tolerance mm	: 0.50 : + 0.50
Rated speed rpm	: 1300

		1		
control lever position degree tolerance degree		<u> </u>	Pressure hPa rack travel mm Tolerance mm	: 9.80
control lever position degree tolerance degree	: 17.0 : + 4.0		Pressure hPa rack travel mm Tolerance mm	: 610 : 11.50 : - 0.05
Testing:		Ì	START CUT-OUT	
Rated speed rpm rack travel mm Tolerence mm	: 250 : 4.60 : ← 0.30	<u> </u>	Rated speed rpm Rated speed rpm	: > 100 : < 170
Rated speed rpm	: 150	1	Check speed 1/min	: > 80
CRT mm min.	: > 7.30	Ŧ	Check	
Rated speed rpm	: 275	‡	speed 1/min	: < 190
	·····	‡	FUEL DELIVERY CHA	RACTERISTICS
TORQUE CONTROL		‡	Aneroid pressure	
Rated speed rpm	: 775	+	hPa	: 1500
rack travel mm	: 14.05	+	hPa Rated speed rpm	: 650
Rated speed rpm rack travel mm Toierance mm	: +- 0.05	<u> </u>	Del. quantity cm3/1000 strokes	• 319.0
Rated speed rpm	: 650	Ţ	cm3/1000 strokes	: + 4.0
rack travel mm	: 13.05	1	Check tolerance	
Tolerance mm	: +- 0.10	+	cm3/1000s.	
Pated speed spe	• 1050	1	Aneroid pressure	
rack travel mm	: 13.10	<u> </u>	hPa	: 1500
Rated speed rpm rack travel mm Tolerance mm	: + 0.10	+	Rated speed rpm	
Dated aread are	. 475	†	Del. quantity cm3/1000 strokes	• 272 በ
Rated speed rpm rack travel mm	. 17 70	Ī	cm3/1000 strokes	
Tolerance mm	· +- 0.30	I	Check tolerance	4.0
TOTAL MILL		+	cm3/1000s.	: +- 8.0
ANDROTO /AL TITLING		+	Amenaid anageurs	
ANEROID/ALTITUDE COMPENSATOR TEST		I	Aneroid pressure hPa	: 1500
COMPENSATOR TEST		I	Rated speed rpm	
		1	Del. quantity	
SETTING		+	cm3/1000 strokes	: 323.0
		+	cm3/1000 strokes	: 4.0
Rated speed rpm	: 775	†	Check tolerance	. 40.0
Pressure hPa	: 1500	†	cm3/1000s.	: + 10.0
rack travel mm	: 14.05 : + 0.10	Ī	Aneroid pressure	
Tolerance mm	. +- 0.10	I	hPa	: -
MEASUREMENT		+	Rated speed rpm	: 500
Danceura ha-	• —	†	Del. quantity cm3/1000 strokes	: 192.0
Pressure hPa Rated speed rpm	775	I	cm3/1000 strokes	
rack travel mm		I	Check tolerance	
Tolerance mm	: +- 0.20	1	cm3/1000s.	: +- 4.0
		+		
Rated speed rpm	: 775	+		

F10

BREAKAWAY

Rack travel in mm : 12.10
Rated speed rpm : 1095
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 10.70 Tolerance mm : + 0.50 Del. quantity

cm3/1000 strokes : 210.0 cm3/1000 strokes : \leftarrow 20.0 Check tolerance

: +- 24.0 cm3/1000s.

LOW IDLE

Rated speed rpm : 250 Del. quantity cm3/1000 strokes : 19.0

cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0

Spreed cm3/1000 strokes : 4.0

cm3/1000 strong Check tolerance 3/4000s : 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 08.11.96 Test oil : ISO 4113

Combination No. : 0 400 074 884

Injection pump

Pump designation : PES4M55C32ORS184 EP type number : 0 410 054 938

Governor

Governer design. : RSF375/1900M77 Governer no. : 0 420 021 273

Cust. part No. :

Customer-spec. information Customer : MB-PKW : 0M601-2.3L Motor Power KW : 58.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C : +- 2.0 Tolerance °C

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde

: 1 688 901 111 assembly

Opening pressure

148.5 bar Tolerance bar : +- 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 600 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

2.05 Prestroke mm : + 0.05Tolerance mm Check

tolerance mm : + 0.10

Rack travel in mm : 21.00 Tolerance mm : + 1.00

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Start of delivery blocking

*NW after s.o.d. : 16.50 : + 0.20Tolerance

Check

tolerance *NW : +- 0.30

: 1 Barrel no.

BASIC SETTING

Rated speed rpm : 1850

Rack travel in mm: 12.30 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 42.0

cm3/1000 strokes : \leftarrow 0.5

Check tolerance cm3/1000s.

1.5 : +-

Spreed

cm3/1000 strokes : 2.5

Check tolerance

cm3/1000s. 3.0

+	
Rated speed rpm : 375	LOW IDLE
Rack travel in mm: 4.70	
Tolerance mm : +- 0.10 + Del. quantity +	control lever
cm3/1000 strokes : 6.5	position degree : 14.0
cm3/1000 strokes : + 0.5	tolerance degree : - 2.0
Spreed	
cm3/1000 strokes : 1.0	Setting point w/out bumper spring Rated speed rpm : 375
1	rack travel mm : 4.70
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR	SET IDLE AUXILIARY SPRING
	Rated speed rpm : 450
IDLE STAGE	rack travel mm : 3.40
†	Tolerance mm : +- 0.10
Rack travel in mm: 6.25	Load pick-up
Tolerance mm : + 0.25	·
†	Rated speed rpm : 250
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : > 10.20
+	Rated speed rpm : 1000
Rated speed rpm : 1850 +	
Ref. pressure ALDA / ADA hPa : 1100	CRT mm max. : 1.45
Del. quantity	rack travel mm : 4.70
cm3/1000 strokes : 42.0	rack travel mm : 4.70 Rated speed rpm : 375
cm3/1000 strokes : + 0.5	
Check tolerance	
cm3/1000s. : + 1.5 + Spreed	TORQUE CONTROL
cm3/1000 strokes : 2.5	TONGOE CONTROL
Check tolerance	Rated speed rpm : 1850
cm3/1000s. : 3.0	rack travel mm : 12.30
	Tolerance mm : +- 0.05
RATED SPEED	Rated speed rpm : 1000
†	rack travel mm : 12.35
control lever	Tolerance mm : + 0.10
position degree : 50.0	
+	ADJUSTMENT TEST ADA/ALDA
Rated speed rpm : 2200	OFTTAIO
rack travel mm : 5.60 + Tolerance mm : + 0.25	SETTING
+	Rated speed rpm : 1000
Rated speed rpm : 2400 +	Ref. pressure
rack travel mm : 0.50 + Tolerance mm : +- 0.50 +	ALDA / ADA hPa : 940 rack travel mm : -0.10
Tolerance mm : +- 0.50 +	Tolerance mm : +- 0.10
	rocer drive man
SET IDLE CONTROL LEVER POSITION	MEASUREMENT
Rated speed rpm : 1000	Rated speed rpm : 1000
+	Ref. pressure
CRT mm max. : 1.45	ALDA / ADA hPa : 900 rack travel mm : -0.40
+	rack travel mm : -0.40

Tolerance mm	: +- 0.10	+
Ref. pressure ALDA / ADA hPa		LOW IDLE
rack travel mm Tolerance mm		+ Rated speed rpm : 375 + Del. quantity
		+ cm3/1000 strokes : 7.8 + Check tolerance
FUEL DELIVERY CHA	ARACTERISTICS	+ cm3/1000s. : + 2.3 + Spreed
Ref. pressure		the Check tolerance cm3/1000s. : 1.5
ALDA / ADA hPa Rated speed rpm Del. quantity	: 1000	
cm3/1000 strokes		+
cm3/1000 strokes Check tolerance		‡
cm3/1000s.	: + 2.0	control lever
Spreed cm3/1000 strokes Check tolerance	: 2.5	position degree : > 47.00
cm3/1000s.	: 3.0	T control lever
		position degree : < 44.50
HIGH IDLE		SETTING PNEUMATIC FAST IDLE (PLA)
		+ (PLA) POSITION
Ref. pressure	: 1100	†
ALDA / ADA hPa		t control lever
Rated speed rpm rack travel mm	: 5.60	+ position degree : 14.0
Tolerance mm	: +- 0.25	tolerance degree : +- 2.0
Del. quantity		
cm3/1000 strokes	: 16.0	+ Rated speed rpm : 425
cm3/1000 strokes		+
Check tolerance		+ Rack travel in mm : 7.00
cm3/1000s.	: ← 3.0	+ Tolerance mm : + 0.80
Spreed	: 2.5	Del. quantity cm3/1000 strokes : 15.3
cm3/1000 strokes Check tolerance	: 2.3	+ cm3/1000 strokes : 15.3 + cm3/1000 strokes : + 3.5
cm3/1000s.	: 3.0	+ Check tolerance
	. 0.0	+ cm3/1000s. : +- 4.5
STARTING FUEL DEL	IVERY	+ Vacuum hPa : 450.0
		+
Rated speed rpm	: 100	†
rack travel mm	: > 20.10	TECTING PAIGUMATIC CHUTCES DEVICE
Del. quantity cm3/1000 strokes	: 59.8	TESTING PNEUMATIC SHUTOFF DEVICE
cm3/1000 strokes	: + 4.0	Rated speed rpm : 375
Check tolerance		+ Vacuum hPa : -450.0
cm3/1000s.	: +- 5.0	1
cm3/1000 strokes Check tolerance	: 6.0	
cm3/1000s.	: 6.0	End of test specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 08.11.96 Test oil : ISO 4113

Combination No. : 0 400 075 925

Injection pump

Pump designation : PES5M55C320RS201 EP type number : 0 410 055 972

Governor

Governer design. : RSF350/2500M56-13

Governer no. : 0 420 021 171

Cust. part No. :

Customer-spec. information
Customer : MB-PKW
Motor : OM605
Power KW : 83.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde

assembly : 1 688 901 111

Opening pressure

bar : 148.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 1.75
Tolerance mm : + 0.05
Check

tolerance mm : + 0.10

Rack travel in mm : 21.00 Tolerance mm : + 1.00

Firing order : 1-2-4-5-3

Phasing : 0-72-144-216-288

Start of delivery blocking

*NW after s.o.d. : 16.50 Tolerance : +- 0.20

Check

tolerance *NW : + 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm: 12.75

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 37.0

cm3/1000 strokes : +- 0.5

Check tolerance cm3/1000s. : +- 1.5

Spreed cm3/1000 strokes : 2.5

F15

	1
Check tolerance cm3/1000s. : 3.0	CRT mm max.
Rated speed rpm : 350	LOW IDLE
Rack travel in mm : 7.40 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 8.5	Setting poir Rated speed rack travel
cm3/1000 strokes : +- 0.5 Spreed	+ SET IDLE AU)
cm3/1000 strokes : 1.0	Rated speed rack travel Tolerance mm
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel Rated speed Tolerance 1
IDLE STAGE	Load pick-up
Rack travel in mm : 6.25 Tolerance mm : + 0.25	Rated speed rack travel
FULL LOAD DELIVERY AT FULL LOAD S	Rated speed
Rated speed rpm : 1400	CRT mm max.
Ref. pressure ALDA / ADA hPa : 1100 Del. quantity	rack travel Rated speed
<pre>cm3/1000 strokes : 37.0 cm3/1000 strokes : + 0.5 Check tolerance cm3/1000s. : + 1.5 Spreed cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. : 3.0</pre>	TORQUE CONTR Rated speed rack travel Tolerance mm Rated speed rack travel
RATED SPEED	Tolerance mm
control lever position degree : 50.0	+ Rated speed + rack travel + Tolerance mm
Rated speed rpm : 2700 rack travel mm : 7.50 Tolerance mm : + 0.30	ADJUSTMENT T
Rated speed rpm : 3150 rack travel mm : 0.50 Tolerance mm : + 0.50	+ SETTING + Rated speed + Ref. pressur + ALDA / ADA h
SET IDLE CONTROL LEVER POSITION	rack travel Tolerance mm
Rated speed rpm : 1400	# MEASUREMENT

Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 7.40 SET IDLE AUXILIARY SPRING Rated speed rpm : 475 rack travel mm : 5.40 Tolerance mm : +- 0.10 rack travel mm : 3.00 Rated speed rpm : 700 Tolerance 1/min : +- 50 Load pick-up Rated speed rpm : 250 rack travel mm : > 10.00 Rated speed rpm : 1400 CRT mm max. : 1.95 rack travel mm : 7.40 Rated speed rpm : 350 TORQUE CONTROL Rated speed rpm : 2300 rack travel mm : 12.75 Tolerance mm : +- 0.05 Rated speed rpm : 2300 rack travel mm : 12.30 Tolerance mm : +- 0.15 Rated speed rpm : 2500 rack travel mm : 11.90 Tolerance mm : +- 0.15 ADJUSTMENT TEST ADA/ALDA SETTING Rated speed rpm : 1400 Rated speed rpm : 2500 rack travel mm : 11.90 Tolerance mm : +- 0.15 ADJUSTMENT TEST ADA/ALDA SETTING Rated speed rpm : 940 rack travel mm : -0.10 Tolerance mm : -0.10 Tolerance mm : -0.10 Tolerance mm : -0.10 Tolerance mm : -0.10		
Rated speed rpm : 350 rack travel mm : 7.40 SET IDLE AUXILIARY SPRING Rated speed rpm : 475 rack travel mm : 5.40 Tolerance mm : +- 0.10 rack travel mm : 3.00 Rated speed rpm : 700 Tolerance 1/min : +- 50 Load pick-up Rated speed rpm : 250 rack travel mm : > 10.00 Rated speed rpm : 1400 CRT mm max. : 1.95 rack travel mm : 7.40 Rated speed rpm : 350 TORQUE CONTROL Rated speed rpm : 1400 rack travel mm : 12.75 Tolerance mm : +- 0.05 Rated speed rpm : 2300 rack travel mm : 12.30 Tolerance mm : +- 0.15 Rated speed rpm : 2500 rack travel mm : 11.90 Tolerance mm : +- 0.15 Rated speed rpm : 2500 rack travel mm : 11.90 Tolerance mm : +- 0.15 ADJUSTMENT TEST ADA/ALDA SETTING Rated speed rpm : 940 rack travel mm : -0.10 Tolerance mm : -0.10 Tolerance mm : -0.10 Tolerance mm : -0.10 Tolerance mm : -0.10 Tolerance mm : -0.10	LOW IDLE	
Rated speed rpm : 475 rack travel mm : 5.40 Tolerance mm : +- 0.10 rack travel mm : 3.00 Rated speed rpm : 700 Tolerance 1/min : +- 50 Load pick-up Rated speed rpm : 250 rack travel mm : > 10.00 Rated speed rpm : 1400 CRT mm max. : 1.95 rack travel mm : 7.40 Rated speed rpm : 350 TORQUE CONTROL Rated speed rpm : 12.75 Tolerance mm : +- 0.05 Rated speed rpm : 2300 rack travel mm : 12.30 Tolerance mm : +- 0.15 Rated speed rpm : 2500 rack travel mm : 11.90 Tolerance mm : +- 0.15 Rated speed rpm : 2500 rack travel mm : 11.90 Tolerance mm : +- 0.15 ADJUSTMENT TEST ADA/ALDA SETTING Rated speed rpm : 1400 Ref. pressure ALDA / ADA hPa : 940 rack travel mm : -0.10 Tolerance mm : -0.10 Tolerance mm : -0.10 Tolerance mm : -0.10 Tolerance mm : -0.10	Setting point w/o Rated speed rpm rack travel mm	out bumper spring : 350 : 7.40
rack travel mm : 3.00 Rated speed rpm : 700 Tolerance 1/min : + 50 Load pick-up Rated speed rpm : 250 rack travel mm :> 10.00 Rated speed rpm : 1400 CRT mm max. : 1.95 rack travel mm : 7.40 Rated speed rpm : 350 TORQUE CONTROL Rated speed rpm : 1400 rack travel mm : 12.75 Tolerance mm : + 0.05 Rated speed rpm : 2300 rack travel mm : 12.30 Tolerance mm : + 0.15 Rated speed rpm : 2500 rack travel mm : 11.90 Tolerance mm : + 0.15 ADJUSTMENT TEST ADA/ALDA SETTING Rated speed rpm : 1400 Ref. pressure ALDA / ADA hPa : 940 rack travel mm : -0.10 Tolerance mm : -0.10 Tolerance mm : -0.10	SET IDLE AUXILIA	RY SPRING
Rated speed rpm : 700 Tolerance 1/min : + 50 Load pick-up Rated speed rpm : 250 rack travel mm : > 10.00 Rated speed rpm : 1400 CRT mm max. : 1.95 rack travel mm : 7.40 Rated speed rpm : 350 TORQUE CONTROL Rated speed rpm : 1400 rack travel mm : 12.75 Tolerance mm : + 0.05 Rated speed rpm : 2300 rack travel mm : 12.30 Tolerance mm : + 0.15 Rated speed rpm : 2500 rack travel mm : 11.90 Tolerance mm : + 0.15 ADJUSTMENT TEST ADA/ALDA SETTING Rated speed rpm : 1400 Ref. pressure ALDA / ADA hPa : 940 rack travel mm : -0.10 Tolerance mm : + 0.10 Tolerance mm : + 0.10	Rated speed rpm rack travel mm Tolerance mm	: 475 : 5.40 : + 0.10
Rated speed rpm : 250 rack travel mm : > 10.00 Rated speed rpm : 1400 CRT mm max. : 1.95 rack travel mm : 7.40 Rated speed rpm : 350 TORQUE CONTROL Rated speed rpm : 1400 rack travel mm : 12.75 Tolerance mm : + 0.05 Rated speed rpm : 2300 rack travel mm : 12.30 Tolerance mm : + 0.15 Rated speed rpm : 2500 rack travel mm : 11.90 Tolerance mm : + 0.15 ADJUSTMENT TEST ADA/ALDA SETTING Rated speed rpm : 1400 Ref. pressure ALDA / ADA hPa : 940 rack travel mm : -0.10 Tolerance mm : + 0.10 Tolerance mm : + 0.10	rack travel mm Rated speed rpm Tolerance 1/min	: 3.00 : 700 : ← 50
Rated speed rpm : 1400 CRT mm max. : 1.95 rack travel mm : 7.40 Rated speed rpm : 350 TORQUE CONTROL Rated speed rpm : 1400 rack travel mm : 12.75 Tolerance mm : 400 rack travel mm : 12.30 Tolerance mm : 2300 rack travel mm : 12.30 Tolerance mm : 40.15 Rated speed rpm : 2500 rack travel mm : 11.90 Tolerance mm : 40.15 ADJUSTMENT TEST ADA/ALDA SETTING Rated speed rpm : 1400 Ref. pressure ALDA / ADA hPa : 940 rack travel mm : -0.10 Tolerance mm : +0.10	Load pick-up	
CRT mm max. : 1.95 rack travel mm : 7.40 Rated speed rpm : 350 TORQUE CONTROL Rated speed rpm : 1400 rack travel mm : 12.75 Tolerance mm : 2300 rack travel mm : 12.30 Tolerance mm : 12.30 Tolerance mm : 2500 rack travel mm : 11.90 Tolerance mm : 11.90 Tolerance mm : 11.90 Tolerance mm : 400 Rated speed rpm : 2500 rack travel mm : 11.90 Tolerance mm : 400 Ref. pressure ALDA / ADA hPa : 940 rack travel mm : -0.10 Tolerance mm : -0.10 Tolerance mm : +0.10	Rated speed rpm rack travel mm	: 250 : > 10.00
rack travel mm : 7.40 Rated speed rpm : 350 TORQUE CONTROL Rated speed rpm : 1400 rack travel mm : 12.75 Tolerance mm : 2300 rack travel mm : 12.30 Tolerance mm : 12.30 Tolerance mm : 2500 rack travel mm : 11.90 Tolerance mm : 11.90 Tolerance mm : 40.15 ADJUSTMENT TEST ADA/ALDA SETTING Rated speed rpm : 1400 Ref. pressure ALDA / ADA hPa : 940 rack travel mm : -0.10 Tolerance mm : +0.10		
Rated speed rpm : 350 TORQUE CONTROL Rated speed rpm : 1400 rack travel mm : 12.75 Tolerance mm : + 0.05 Rated speed rpm : 2300 rack travel mm : 12.30 Tolerance mm : + 0.15 Rated speed rpm : 2500 rack travel mm : 11.90 Tolerance mm : + 0.15 ADJUSTMENT TEST ADA/ALDA SETTING Rated speed rpm : 1400 Ref. pressure ALDA / ADA hPa : 940 rack travel mm : -0.10 Tolerance mm : + 0.10	CRT mm max.	: 1.95
Rated speed rpm : 1400 rack travel mm : 12.75 Tolerance mm : + 0.05 Rated speed rpm : 2300 rack travel mm : 12.30 Tolerance mm : + 0.15 Rated speed rpm : 2500 rack travel mm : 11.90 Tolerance mm : + 0.15 ADJUSTMENT TEST ADA/ALDA SETTING Rated speed rpm : 1400 Ref. pressure ALDA / ADA hPa : 940 rack travel mm : -0.10 Tolerance mm : + 0.10	rack travel mm Rated speed rpm	
rack travel mm : 12.75 Tolerance mm : + 0.05 Rated speed rpm : 2300 rack travel mm : 12.30 Tolerance mm : + 0.15 Rated speed rpm : 2500 rack travel mm : 11.90 Tolerance mm : + 0.15 ADJUSTMENT TEST ADA/ALDA SETTING Rated speed rpm : 1400 Ref. pressure ALDA / ADA hPa : 940 rack travel mm : -0.10 Tolerance mm : + 0.10	TORQUE CONTROL	
rack travel mm : 12.30 Tolerance mm : + 0.15 Rated speed rpm : 2500 rack travel mm : 11.90 Tolerance mm : + 0.15 ADJUSTMENT TEST ADA/ALDA SETTING Rated speed rpm : 1400 Ref. pressure ALDA / ADA hPa : 940 rack travel mm : -0.10 Tolerance mm : + 0.10		: 12.75
rack travel mm : 11.90 Tolerance mm : + 0.15 ADJUSTMENT TEST ADA/ALDA SETTING Rated speed rpm : 1400 Ref. pressure ALDA / ADA hPa : 940 rack travel mm : -0.10 Tolerance mm : + 0.10	Rated speed rpm rack travel mm Tolerance mm	: 12.30
SETTING Rated speed rpm : 1400 Ref. pressure ALDA / ADA hPa : 940 rack travel mm : -0.10 Tolerance mm : + 0.10	Rated speed rpm rack travel mm Tolerance mm	: 11.90
Rated speed rpm : 1400 Ref. pressure ALDA / ADA hPa : 940 rack travel mm : -0.10 Tolerance mm : + 0.10	ADJUSTMENT TEST A	ADA/ALDA
Ref. pressure ALDA / ADA hPa : 940 rack travel mm : -0.10 Tolerance mm : + 0.10	SETTING	
MEASUREMENT	Ref. pressure ALDA / ADA hPa	: 940 : -0.10
	MEASUREMENT	

: 1.95

		1
Rated speed rpm	: 1400	Rated speed rpm : 100
Ref. pressure		rack travel mm : 21.60
ALDA / ADA hPa		Tolerance mm : + 1.50
rack travel mm	: -0.40	† Del. quantity
Tolerance mm	: ← 0.10	+ cm3/1000 strokes : 55.0
		+ cm3/1000 strokes : + 4.0
Ref. pressure	770	+ Check tolerance
ALDA / ADA hPa		$\frac{1}{1000}$ cm3/1000s. : +- 5.0
rack travel mm	: -1.50	+ Spreed
Tolerance mm	: ← 0.20	+ cm3/1000 strokes : 6.0 + Check tolerance
		+ cm3/1000s. : 6.0
FUEL DELIVERY CHA	ARACTERISTICS	<u> </u>
Ref. pressure		
ALDA / ADA hPa	: 1100	LOW IDLE
Rated speed rpm		+
Del. quantity		Rated speed rpm : 350
cm3/1000 strokes		+ Del. quantity
cm3/1000 strokes	: +- 0.8	+ cm3/1000 strokes : 9.5
Check tolerance		+ Check tolerance
cm3/1000s.	: ← 1.8	+ cm3/1000s. : + 2.3
Spreed	2.5	+ Spreed
cm3/1000 strokes	: 2.5	+ Check tolerance + cm3/1000s. : 1.5
Check tolerance cm3/1000s.	: 3.0	+ cm3/1000s. : 1.5
cms/ (uuus.	: 3.0	I
Ref. pressure		
ALDA / ADA hPa	: 1100	<u> </u>
Rated speed rpm		1
Spreed	. 2505	<u> </u>
Del. quantity		control lever
cm3/1000 strokes	: 38.0	position degree : > 49.00
cm3/1000 strokes		+
Check tolerance		+
cm3/1000s.	: ← 2.0	+ control lever
Spreed		<pre>position degree : < 46.50</pre>
cm3/1000 strokes	: 2.5	+
Check tolerance		
cm3/1000s.	: 3.0	+ SETTING PNEUMATIC FAST IDLE (PLA) + (PLA) POSITION
		†
UZCIL IN E		Rated speed rpm : 400
HIGH IDLE		Rack travel in mm : 8.25
Ref. pressure		Tolerance mm : +- 0.70
ALDA / ADA hPa	: 1100	Del. quantity
Rated speed rpm		+ cm3/1000 strokes : 12.0
rack travel mm	7.50	+ cm3/1000 strokes : +- 3.5
Tolerance mm	: 0.30	- Check tolerance
Del. quantity		+ cm3/1000s. : +- 4.5
cm3/1000 strokes		+ Vacuum hPa : 450.0
cm3/1000 strokes	: 2.0	†
Check tolerance		†
cm3/1000s.	: +- 3.0	†
		TESTING DAISHMATTC CHUTCES DEUTCE
CTADITAIC FUEL DEL	TVEDV	TESTING PNEUMATIC SHUTOFF DEVICE
STARTING FUEL DEL	TAFKI	Т

Rated speed rpm : 350 Vacuum hPa : -450.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 08.11.96 Test oil : ISO 4113

Combination No. : 0 400 075 926

Injection pump

Pump designation : PES5M55C32ORS201 EP type number : 0 410 055 972

Governor

Governer design. : RSF350/2500M75-3 Governer no. : 0 420 021 173

Cust. part No. :

Customer-spec. information
Customer : MB-PKW
Motor : 0M605
Power KW : 83.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde

assembly : 1 688 901 111

Opening pressure

bar : 148.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 1.75
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 21.00 Tolerance mm : + 1.00

Firing order : 1-2-4-5-3

Phasing : 0-72-144-216-288

Start of delivery blocking

*NW after s.o.d. : 16.50 Tolerance : + 0.20 Check

tolerance *NW : + 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 12.75
Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 37.0

cm3/1000 strokes : +- 0.5

Check tolerance cm3/1000s. : +- 1.5

Spreed

cm3/1000 strokes : 2.5	+ Rated speed rpm : 1400
Check tolerance cm3/1000s. : 3.0	CRT mm max. : 1.95
Rated speed rpm : 350	LOW IDLE
Rack travel in mm : 7.40 Tolerance mm : +- 0.10	Setting point w/out bumper spring Rated speed rpm : 350
Del. quantity	rack travel mm : 7.40
cm3/1000 strokes : 8.5	THE CLAVE CHANGE . 1.40
cm3/1000 strokes : + 0.5 Spreed	SET IDLE AUXILIARY SPRING
cm3/1000 strokes : 1.0	Rated speed rpm : 475
	+ rack travel mm : 5.40
	rack travel mm : 5.40 Tolerance mm : + 0.10
(B) SETTING OF INJECTION PUMP	+
WITH GOVERNOR	rack travel mm : 3.00 Rated speed rpm : 700 Tolerance 1/min : + 50
	+ Rated speed rpm : 700
	+ Tolerance 1/min : + 50
IDLE STAGE	1
· · · · · · · · · · · · · · · ·	Load pick-up
Rack travel in mm : 6.25	Rated speed rpm : 250
Tolerance mm : + 0.25	Rated speed rpm : 250 rack travel mm : > 10.00
	+
	Rated speed rpm : 1400
FULL LOAD DELIVERY AT FULL LOAD STOP	+
	+ CRT mm max. : 1.95
Rated speed rpm : 1400	+
Ref. pressure	rack travel mm : 7.40
Ref. pressure ALDA / ADA hPa : 1100	rack travel mm : 7.40 Rated speed rpm : 350
Del. quantity	- Marca speca (piii : 330
cm3/1000 strokes : 37.0	1
cm3/1000 strokes : +- 0.5	
Check tolerance	TORQUE CONTROL
cm3/1000s. : + 1.5	1
Spreed	Rated speed rpm : 1400
cm3/1000 strokes : 2.5	rack travel mm : 12.75
Check tolerance	rack travel mm : 12.75 Tolerance mm : + 0.05
cm3/1000s. : 3.0	Total drice likit
CHD/10000 J.U	Rated speed rpm : 2300
	rack travel mm : 12.30
RATED SPEED	Tolerance mm : + 0.15
NATES OF FEE	1000101100 11111
	Rated speed rpm : 2500
control lever	Rated speed rpm : 2500 rack travel mm : 11.90 Tolerance mm : +- 0.15
position degree : 50.0	Tolerance mm : +- 0.15
	+
Rated speed rpm : 2700	<u> </u>
rack travel mm : 7.50	ADJUSTMENT TEST ADA/ALDA
olerance mm : +- 0.30	+
	+ SETTING
Rated speed rpm : 3150	-
	Rated speed rpm : 1400
rack travel mm : 0.50 Folerance mm : +- 0.50	Ref. pressure
Condition with the Condition	ALDA / ADA hPa : 940
	+ rack travel mm : -0.10
SET IDLE CONTROL LEVER POSITION	+ Tolerance mm : +- 0.10

MEASUREMENT

Rated speed rpm	:	1400
Ref. pressure ALDA / ADA hPa	:	900
rack travel mm	:	-0.40
Tolerance mm	:	+ 0.10
Ref. pressure		
ALDA / ADA hPa	:	750
rack travel mm	:	-1.50
Tolerance mm	:	+- 0.20

FUEL DELIVERY CHARACTERISTICS

Ref. pressure				
ALDA / ADA hPa	:	1	100	
Rated speed rpm	:	2:	300	
Del. quantity				
cm3/1000 strokes	:		39.3	3
cm3/1000 strokes	: -	+-	0.8	3
Check tolerance				
cm3/1000s.		-	1.8	3
Spreed				
cm3/1000 strokes	:		2.5	5
Check tolerance				
cm3/1000s.	:		3.0)
Ref. pressure				
ALDA / ADA hPa	:	1	100	
Rated speed rpm	:	25	500	
Spreed	-			

Spreed	•	
Del. quantity		
cm3/1000 strokes	:	38.0
cm3/1000 strokes	: +-	1.0
Check tolerance		
cm3/1000s.	: +-	2.0
Spreed		
cm3/1000 strokes	:	2.5
Check tolerance		
cm3/1000s.	:	3.0

HIGH IDLE

Ref. pressure			
ALDA / ADA hPa	:		100
Rated speed rpm	:		700
rack travel mm	:		7.50
Tolerance mm	:	+-	0.30
Del. quantity			
cm3/1000 strokes	:		14.0
cm3/1000 strokes	:	+-	2.0
Check tolerance			
cm3/1000S.	:	+-	3.0

STARTING FUEL DELIVERY

Rated speed rpm	:	100
rack travel mm	:	21.60
Tolerance mm	: +-	1.50
Del. quantity		
cm3/1000 strokes	:	55.0
cm3/1000 strokes	: +-	4.0
Check tolerance		
cm3/1000s.	: +-	5.0
Spreed		
cm3/1000 strokes	:	6.0
Check tolerance		
cm3/1000s.	•	6.0

LOW IDLE

Rated speed rpm Del. quantity	:	350
cm3/1000 strokes	:	9.5
Check tolerance cm3/1000S.	: +-	- 2.3
Spreed Check tolerance		
cm3/1000s.	:	1.5

control	lever		
position	degree	: >	49.00

control lever
position degree : < 46.50</pre>

SETTING PNEUMATIC FAST IDLE (PLA) (PLA) POSITION

Rated speed rpm	:		400
Rack travel in mm Tolerance mm Del. quantity	:	+-	8.25 0.70
cm3/1000 strokes	:		12.0
cm3/1000 strokes Check tolerance	:	+-	3.5
cm3/1000s.	:	+-	4.5
Vacuum hPa	:		450.0

ADJUST ACTIVE SURGE DAMPING ARD

Rated speed rpm : 1400 rack travel mm : 1.70 Tolerance mm : + 0.15

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 350 Vacuum hPa : -450.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 08.11.96 Test oil : ISO 4113

Combination No. : 0 400 5/6 963

Injection pump

Pump designation : PES6M55C32ORS157-1

EP type number : 0 410 056 991

Governor

Governer design. : RSF450/2300M68-1 Governer no. : 0 420 021 141

Cust. part No. :

Customer-spec. information Customer : MB-NFZ

Motor : OM603A (3.0L)

Power KW : 100.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde

assembly : 1 688 901 111

Opening pressure

bar : 148.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.25
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 21.00 Tolerance mm : + 1.00

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Start of delivery blocking

*NW after s.o.d. : 19.50 Tolerance : + 0.20

Check

tolerance *NW : + 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 13.15

Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 48.5

cm3/1000 strokes : + 0.5

Check tolerance

cm3/1000s. : +- 1.5

Spreed

cm3/1000 strokes : 2.5	+ Rated speed rpm : 1000
Check tolerance : 3.0	CRT mm max. : 1.95
Rated speed rpm : 450	LOW IDLE
Rack travel in mm : 5.50 Tolerance mm : + 0.10	control lever
Del. quantity cm3/1000 strokes : 7.0	<pre>position degree : 12.0 tolerance degree : +- 2.0</pre>
cm3/1000 strokes : +- 0.5 Spreed	+ Setting point w/out bumper spring
cm3/1000 strokes : 1.0	Rated speed rpm : 450 rack travel mm : 5.50
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	SET IDLE AUXILIARY SPRING
Nam setamen	Rated speed rpm : 500
IDLE STAGE	rack travel mm : 4.40 Tolerance mm : + 0.10
	+
Rack travel in mm: 6.50	+ rack travel mm : 2.50 + Rated speed rpm : 670
Tolerance mm : +- 0.10	Tolerance 1/min : +- 50
	Load pick-up
FULL LOAD DELIVERY AT FULL LOAD STOP	Poted speed ppp . 250
Rated speed rpm : 1000 Ref. pressure	+ Rated speed rpm : 250 + rack travel mm : > 12.50
ALDA / ADA hPa : 1850 Del. quantity	Rated speed rpm : 1000
cm3/1000 strokes : 48.5 cm3/1000 strokes : + 0.5	CRT mm max. : 1.95
Check tolerance cm3/1000s. : +- 1.5	rack travel mm : 5.50 Rated speed rpm : 450
Spreed cm3/1000 strokes : 2.5	1
Check tolerance	
cm3/1000s. : 3.0	+ TORQUE CONTROL
	Rated speed rpm : 1000
RATED SPEED	rack travel mm : 13.15 Tolerance mm : + 0.05
control lever	Rated speed rpm : 1600
position degree : 50.0	Rated speed rpm : 1600 rack travel mm : 12.50 Tolerance mm : + 0.10
Rated speed rpm : 2500	+
rack travel mm : 8.60 Tolerance mm : + 0.20	+ Rated speed rpm : 2200
Tolerance mm : +- 0.20	rack travel mm : 11.60 Tolerance mm : + 0.10
Rated speed rpm : 2950	+
rack travel mm : 0.50 Tolerance mm : + 0.50	+ ADJUSTMENT TEST ADA/ALDA
Toterance um : TO 0.30	+
SET IDLE CONTROL LEVER POSITION	SETTING
DEL TOPE CONTINUE CEASIN LOCALITOR	Rated speed rpm : 1000

Ref. pressure ALDA / ADA hPa rack travel mm Tolerance mm : +- MEASUREMENT Rated speed rpm : Ref. pressure ALDA / ADA hPa rack travel mm : Tolerance mm : +- Ref. pressure ALDA / ADA hPa rack travel mm : +- Ref. pressure ALDA / ADA hPa rack travel mm : +-	-0.60 - 0.20 	Check tolerance cm3/1000s. Ref. pressure ALDA / ADA hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance cm3/1000s.	: 1100 : 1000 : 37.0 : +- 0.5 : +- 1.5 : 2.5
	 	HIGH IDLE	
FUEL DELIVERY CHARACTE Ref. pressure ALDA / ADA hPa :	1850	Ref. pressure ALDA / ADA hPa Rated speed rpm rack travel mm Tolerance mm	: 1850 : 2500 : 8.60
Rated speed rpm : Del. quantity cm3/1000 strokes : cm3/1000 strokes : +-	47.3 - 0.8	Del. quantity cm3/1000 strokes cm3/1000 strokes	: 32.0 : + 2.0
Check tolerance cm3/1000s. : +- Spreed	- 1.8	Check tolerance cm3/1000s. Spreed	: + 3.0
cm3/1000 strokes : Check tolerance	<u> </u>	cm3/1000 strokes Check tolerance	
cm3/1000s. :	+	cm3/1000s.	: 3.0
Ref. pressure ALDA / ADA hPa : Rated speed rpm : Spreed	1850 2200	STARTING FUEL DELI Rated speed rpm	
Del. quantity cm3/1000 strokes :		rack travel mm Del. quantity	: > 20.10
cm3/1000 strokes : +- Check tolerance cm3/1000s. : +-	2.0	cm3/1000 strokes Spreed cm3/1000 strokes	
Spreed cm3/1000 strokes :	+	Check tolerance	: 6.0
Check tolerance cm3/1000s. :	3.0		
Ref. pressure ALDA / ADA hPa : ' Rated speed rpm : '		LOW IDLE	
Del. quantity cm3/1000 strokes : cm3/1000 strokes : +-		Rated speed rpm Del. quantity cm3/1000 strokes	
Check tolerance cm3/1000s. : +-	+	Check tolerance	. 6.3 : + 2.3
Spreed cm3/1000 strokes :	2.5	Spreed Check tolerance cm3/1000S.	: 1.5

control lever

position degree : > 35.50

control lever

position degree : < 33.00

SETTING PNEUMATIC FAST IDLE (PLA) (PLA) POSITION

control lever

position degree : 12.0 tolerance degree : + 2.0

Rated speed rpm : 500

Rack travel in mm : 7.60 Tolerance mm : + 0.80

Del. quantity

cm3/1000 strokes : 19.0 cm3/1000 strokes : + 3.5

Check tolerance

cm3/1000s. : +- 4.5 Vacuum hPa : 450.0

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 450 Vacuum hPa : -450.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 14.11.96 Test oil : ISO 4113

Combination No. : 0 401 840 065

Injection pump

Pump designation : PE12P100A320LS828 EP type number : 0 411 800 036

Governor

Governer design. : RQ750PA484R Governer no. : 0 421 801 104

Cust. part No. :

Customer-spec. information
Customer : MB-NFZ
Motor : OM 404
Power KW : 202.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 631 343 009

Opening pressure

bar : 173.5 Tolerance bar : +- 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 1.5 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 3.25
Tolerance mm : + 0.05
Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 12-1-5-9-8

: - 3- 4- 11- 10 : - 2- 6- 7

Phasing : 0-45-60-105-120

: -165-180-225-240 : -285-300-345

Tolerance : \leftarrow 0.30

Check

tolerance "NW : +- 0.50

Start of delivery mark

Tolerance : + 0.10

Check

tolerance *NW : + 0.75

Barrel no. : 12

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 12.15

Tolerance mm : ← 0.05

Del. quantity cm3/1000 strokes	: 98.0
cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000s.	: + 3.0
Spreed cm3/1000 strokes	: 3.0
Check tolerance cm3/1000s.	: 6.0
Rated speed rpm	: 250
Rack travel in mm Tolerance mm Del. quantity	: 8.00 : ← 0.10
cm3/1000 strokes cm3/1000 strokes Check tolerance	: 16.0 : + 3.0
cm3/1000s.	: +- 5.5
Spreed cm3/1000 strokes	: 3.0
Check tolerance cm3/1000s.	: 5.0
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance	: - : 98.0 : + 1.0 : + 3.0 : 3.0
cm3/1000s. RATED SPEED	: 6.0
rack travel mm	: 11.10
Rated speed rpm Tolerance 1/min	: 11.10 : 753 : ← 3

rack travel mm Tolerance mm Rated speed rpm			0.50 0.50 900		
LOW IDLE					
Testing:					
Rated speed rpm rack travel mm Tolerance mm	: +	_	250 8.00 0.10		
TORQUE CONTROL					_
Rated speed rpm rack travel mm Tolerance mm	: +		700 12.15 0.05		
BREAKAWAY					
Rack travel in mm Rated speed rpm Tolerance 1/min	: : : +	_	11.10 753 3		
LOW IDLE	 -				_
Rated speed rpm	:		250		
Del. quantity cm3/1000 strokes	:	_	16.0 3.0		
cm3/1000 strokes Check tolerance	, T	_			
cm3/1000s. Spreed	; +	-	5.5		
cm3/1000 strokes Check tolerance	:		3.0		
cm3/1000s.	:		5.0		

End of test specification sheet

rack travel mm : 5.40
Rated speed rpm : 780
Tolerance 1/min : +- 5

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.11.96 Test oil : ISO 4113

Combination No. : 0 402 646 617

Injection pump

Pump designation : PE6P130A320RS7282 EP type number : 0 412 636 825

Governor

Governer design. : RQV300...900PA1059 Governer no. : 0 421 814 049

Cust. part No. : 865851-P07 V.10.96

Customer—spec. information Customer : PENTA Motor : TAD 1230 P

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.05
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 8.30

Rack travel in mm : 8.30 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

tolerance *NW : + 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 11.55

Tolerance mm : +- 0.05

Del. quantity		†
cm3/1000 strokes	: 352.0	+ Rated speed rpm : 420
		† guide sleeve
cm3/1000 strokes	: +- 1.5	+ travel mm : 3.17
		+ Tolerance mm : + 0.25
Check tolerance		†
cm3/1000s.	: ← 5.0	+ Rated speed rpm : 1210
		guide sleeve
Spreed	7.0	+ travel mm : 11.50
cm3/1000 strokes	: 7.0	+ Tolerance mm : +- 0.50
6hl. +l	The Real Property States and Stat	
Check tolerance cm3/1000s.	: 11.0	GUIDE SLEEVE POSITION
Cm5/10005.	: 11.0	4 GOIDE SPEENE LOSILION
Poted speed ppp	: 300	T Rated speed rpm : 980
Rated speed rpm	: 300	+ Rated speed rpm : 980
		T Rack travel in mm : 16.50
Rack travel in m	m: 4.00	Tolerance mn : +- 1.30
Tolerance mm		
Del. quantity	0.10	
cm3/1000 strokes	: 23.0	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes		T TOLE LOAD DERIVERY AT TOLE LOAD STOT
Check tolerance		Rated speed rpm : 700
cm3/1000s.	: +- 6.0	+ Aneroid pressure
Spreed	• • • • • • • • • • • • • • • • • • • •	+ hPa : 2000
cm3/1000 strokes	: 7.0	Del. quantity
Check tolerance		+ cm3/1000 strokes : 352.0
cm3/1000s.	: 11.0	+ cm3/1000 strokes : +- 1.5
		+ Check tolerance
		+ cm3/1000s. : + 5.0
		ナー にほう/(ひじょう・・・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・
(B) SETTING OF I	NJECTION PUMP	t i
(B) SETTING OF IN	NJECTION PUMP	- cm3/1000s. : + 5.0 - Spreed - cm3/1000 strokes : 7.0
	NJECTION PUMP	Spreed
	NJECTION PUMP	Spreed + cm3/1000 strokes : 7.0
		Spreed : 7.0 Check tolerance
WITH GOVERNOR GUIDE SLEEVE TRAN	VEL	Spreed : 7.0 Check tolerance
GUIDE SLEEVE TRAN	VEL	Spreed
GUIDE SLEEVE TRAN	VEL : 300	Spreed : 7.0 Check tolerance
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm	VEL : 300 : 1.81	Spreed cm3/1000 strokes : 7.0 Check tolerance cm3/1000S. : 11.0 CONTROL LEVER
GUIDE SLEEVE TRAN	VEL : 300	Spreed cm3/1000 strokes : 7.0 Check tolerance cm3/1000S. : 11.0 CONTROL LEVER control lever
WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm	VEL : 300 : 1.81 : + 0.25	Spreed cm3/1000 strokes : 7.0 Check tolerance cm3/1000S. : 11.0 CONTROL LEVER control lever position degree : 61.0
WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm	VEL : 300 : 1.81 : + 0.25	Spreed cm3/1000 strokes : 7.0 Check tolerance cm3/1000S. : 11.0 CONTROL LEVER control lever
WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	VEL : 300 : 1.81 : +- 0.25 : 928	Spreed cm3/1000 strokes : 7.0 Check tolerance cm3/1000S. : 11.0 CONTROL LEVER control lever position degree : 61.0 tolerance degree : 4.0
WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	VEL : 300 : 1.81 : +- 0.25 : 928 : 7.72	Spreed cm3/1000 strokes : 7.0 Check tolerance cm3/1000S. : 11.0 CONTROL LEVER control lever position degree : 61.0 tolerance degree : +- 4.0 control lever
WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	VEL : 300 : 1.81 : +- 0.25 : 928	Spreed cm3/1000 strokes : 7.0 Check tolerance cm3/1000S. : 11.0 CONTROL LEVER control lever position degree : 61.0 tolerance degree : +- 4.0 control lever position degree : 117.0
WITH GOVERNOR GUIDE SLEEVE TRAY Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	VEL : 300 : 1.81 : + 0.25 : 928 : 7.72 : + 0.25	Spreed cm3/1000 strokes : 7.0 Check tolerance cm3/1000S. : 11.0 CONTROL LEVER control lever position degree : 61.0 tolerance degree : +- 4.0 control lever
WITH GOVERNOR GUIDE SLEEVE TRAY Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm Rated speed rpm Rated speed rpm	VEL : 300 : 1.81 : +- 0.25 : 928 : 7.72	Spreed cm3/1000 strokes: 7.0 Check tolerance cm3/1000S.: 11.0 CONTROL LEVER control lever position degree: 61.0 tolerance degree: + 4.0 control lever position degree: 117.0 tolerance degree: + 4.0
WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	VEL : 300 : 1.81 : + 0.25 : 928 : 7.72 : + 0.25 : 650	Spreed cm3/1000 strokes : 7.0 Check tolerance cm3/1000S. : 11.0 CONTROL LEVER control lever position degree : 61.0 tolerance degree : +- 4.0 control lever position degree : 117.0
WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm travel mm	VEL : 300 : 1.81 : ← 0.25 : 928 : 7.72 : ← 0.25 : 650 : 5.16	Spreed cm3/1000 strokes : 7.0 Check tolerance cm3/1000S. : 11.0 CONTROL LEVER control lever position degree : 61.0 tolerance degree : + 4.0 control lever position degree : 117.0 tolerance degree : + 4.0 RATED SPEED
WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	VEL : 300 : 1.81 : + 0.25 : 928 : 7.72 : + 0.25 : 650	Spreed cm3/1000 strokes : 7.0 Check tolerance cm3/1000S. : 11.0 CONTROL LEVER control lever position degree : 61.0 tolerance degree : +- 4.0 control lever position degree : 117.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 10.50
WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm	YEL : 300 : 1.81 : + 0.25 : 928 : 7.72 : + 0.25 : 650 : 5.16 : + 0.25	Spreed cm3/1000 strokes : 7.0 Check tolerance cm3/1000S. : 11.0 CONTROL LEVER control lever position degree : 61.0 tolerance degree : +- 4.0 control lever position degree : 117.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 10.50 Rated speed rpm : 915
WITH GOVERNOR GUIDE SLEEVE TRAN Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	VEL : 300 : 1.81 : ← 0.25 : 928 : 7.72 : ← 0.25 : 650 : 5.16	Spreed cm3/1000 strokes : 7.0 Check tolerance cm3/1000S. : 11.0 CONTROL LEVER control lever position degree : 61.0 tolerance degree : +- 4.0 control lever position degree : 117.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 10.50
WITH GOVERNOR GUIDE SLEEVE TRAN Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	YEL : 300 : 1.81 : + 0.25 : 928 : 7.72 : + 0.25 : 650 : + 0.25 : 1.16 : + 0.25 : 315	Spreed cm3/1000 strokes : 7.0 Check tolerance cm3/1000s. : 11.0 CONTROL LEVER control lever position degree : 61.0 tolerance degree : + 4.0 control lever position degree : 117.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 10.50 Rated speed rpm : 915 Tolerance 1/min : + 5
GUIDE SLEEVE TRAN Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	YEL : 300 : 1.81 : + 0.25 : 928 : 7.72 : + 0.25 : 650 : + 0.25 : 315 : 1.98	Spreed cm3/1000 strokes : 7.0 Check tolerance cm3/1000s. : 11.0 CONTROL LEVER control lever position degree : 61.0 tolerance degree : + 4.0 control lever position degree : 117.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 10.50 Rated speed rpm : 915 Tolerance 1/min : + 5 rack travel mm : 4.00
WITH GOVERNOR GUIDE SLEEVE TRAN Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	YEL : 300 : 1.81 : + 0.25 : 928 : 7.72 : + 0.25 : 650 : + 0.25 : 1.16 : + 0.25 : 315	Spreed cm3/1000 strokes : 7.0 Check tolerance cm3/1000s. : 11.0 CONTROL LEVER control lever position degree : 61.0 tolerance degree : +- 4.0 control lever position degree : 117.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 10.50 Rated speed rpm : 915 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1000
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm	YEL : 300 : 1.81 : + 0.25 : 928 : 7.72 : + 0.25 : 650 : 5.16 : + 0.25 : 315 : 1.98 : + 0.25	Spreed cm3/1000 strokes : 7.0 Check tolerance cm3/1000s. : 11.0 CONTROL LEVER control lever position degree : 61.0 tolerance degree : + 4.0 control lever position degree : 117.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 10.50 Rated speed rpm : 915 Tolerance 1/min : + 5 rack travel mm : 4.00
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm Guide sleeve travel mm Tolerance mm Rated speed rpm Rated speed rpm Rated speed rpm	YEL : 300 : 1.81 : + 0.25 : 928 : 7.72 : + 0.25 : 650 : 5.16 : + 0.25 : 315 : 1.98 : + 0.25	Spreed cm3/1000 strokes : 7.0 Check tolerance cm3/1000s. : 11.0 CONTROL LEVER control lever position degree : 61.0 tolerance degree : +- 4.0 control lever position degree : 117.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 10.50 Rated speed rpm : 915 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1000 Tolerance 1/min : +- 15
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	YEL : 300 : 1.81 : + 0.25 : 928 : 7.72 : + 0.25 : 650 : 5.16 : + 0.25 : 315 : 1.98 : + 0.25 : 365	Spreed cm3/1000 strokes : 7.0 Check tolerance cm3/1000s. : 11.0 CONTROL LEVER control lever position degree : 61.0 tolerance degree : +- 4.0 control lever position degree : 117.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 10.50 Rated speed rpm : 915 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1000 Tolerance 1/min : +- 15 rack travel mm : 0.50
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm Guide sleeve travel mm Tolerance mm Rated speed rpm Rated speed rpm Rated speed rpm	YEL : 300 : 1.81 : + 0.25 : 928 : 7.72 : + 0.25 : 650 : 5.16 : + 0.25 : 315 : 1.98 : + 0.25	Spreed cm3/1000 strokes : 7.0 Check tolerance cm3/1000s. : 11.0 CONTROL LEVER control lever position degree : 61.0 tolerance degree : +- 4.0 control lever position degree : 117.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 10.50 Rated speed rpm : 915 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1000 Tolerance 1/min : +- 15

LOW IDLE

control lever position degree : 74.0

tolerance degree : + 4.0

control lever

position degree : 18.0 tolerance degree : + 4.0

Testing:

300 Rated speed rpm : rack travel mm 4.00

: **←** 0.10 Tolerance mm

: > 5.60 rack travel mm Rated speed rpm : 200

Rated speed rpm : 365

TORQUE CONTROL

700 Rated speed rpm 11.55 rack travel mm : +- 0.05 Tolerance mm

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

500 Rated speed rpm Pressure hPa 2000 11.55 rack travel mm

Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa 500 Rated speed rpm 8.25 rack travel mm : + 0.10Tolerance mm

: 500 Rated speed rpm

: 1420 Pressure hPa : 3.00 : + 0.20 rack travel mm Tolerance mm

640 Pressure hPa 0.25 rack travel mm : +- 0.05 Tolerance mm

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa Rated speed rpm : 700

Del. quantity

cm3/1000 strokes : 230.0 cm3/1000 strokes : \leftarrow 1.5

Check tolerance

cm3/1000s. : ← 5.0

BREAKAWAY

Rack travel in mm : 10.50 Rated speed rpm : 915 Tolerance 1/min : + 5

LOW IDLE

Rated speed rpm : 300

Del. quantity

23.0 cm3/1000 strokes : cm3/1000 strokes : +-3.0

Check tolerance

cm3/1000s. : +- 6.0

Spreed

cm3/1000 strokes : 7.0

Check tolerance

cm3/1000s. : 11.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 14.11.96 Test oil : ISO 4113

Combination No. : 0 402 648 967

Injection pump

Pump designation : PE8P120A320LS7871 EP type number : 0 412 628 877

Governor

Governer design. : RQV300...1050PA1078

: -1K

Governer no. : 0 421 815 361

Cust. part No. : 9275447

Customer—spec. information
Customer : LIEBHERR
Motor : D 9408 TI
Power KW : 400.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. *C : 40 Tolerance *C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : ← 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.65
Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-8-7-2-6 :-3-5-4

Phasing : 0-45-90-135-180 : -225-270-315

Tolerance : \leftarrow 0.30

Check

tolerance *NW : +- 0.50

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 11.85

Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 277.5

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. : +- 4.0

Spreed

cm3/1000 strokes : 5.0

Check tolerance cm3/1000s. : 9.0	GUIDE SLEEVE POSITION
Rated speed rpm : 300	Rated speed rpm : 1185
Rack travel in mm: 5.40 Tolerance mm: + 0.10	Rack travel in mm: 10.80 Tolerance mm: : - 1.30
Del. quantity + cm3/1000 strokes : 23.0 + cm3/1000 strokes : + 3.0 +	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance cm3/1000s. : + 6.0	Rated speed rpm : 1050 Aneroid pressure
Spreed cm3/1000 strokes : 6.0	hPa : - Del. quantity cm3/1000 strokes : 277.5
Check tolerance cm3/1000s. : 10.0	cm3/1000 strokes : +- 1.0 Check tolerance
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	cm3/1000s. : +- 4.0 Spreed cm3/1000 strokes : 5.0 Check tolerance
GUIDE SLEEVE TRAVEL	cm3/1000s. : 9.0
Rated speed rpm : 300 + guide sleeve	CONTROL LEVER
travel mm : 1.69 +	
Tolerance mm : + 0.25	control lever position degree : 121.0
Rated speed rpm : 1117 + guide steeve +	tolerance degree : + 4.0
travel mm : 10.38 Tolerance mm : + 0.25	RATED SPEED
Rated speed rpm : 746 + guide sleeve	rack travel mm : 10.85 Rated speed rpm : 1105 Tolerance 1/min : +- 5
travel mm : 6.20 +	
Tolerance mm : + 0.25	rack travel mm : 4.00 Rated speed rpm : 1185
Rated speed rpm : 353 + guide sleeve +	Tolerance 1/min : +- 15
travel mm : 2.45	rack travel mm : 0.50
Tolerance mm : + 0.25	Tolerance mm : +- 0.50 Rated speed rpm : 1300
Rated speed rpm : 403 puide steeve travel mm : 3.18	
Tolerance mm : 3.18	LOW IDLE
Rated speed rpm : 450 +	control lever
travel mm : 3.66 Tolerance mm : + 0.25	position degree : 74.0 tolerance degree : +- 4.0
Rated speed rpm : 1320 guide sleeve	Testing:
travel mm : 13.50 Tolerance mm : + 0.50	Rated speed rpm : 300 rack travel mm : 5.40
COE	

Tolerance mm	: + 0.10
Rated speed rpm	: 200
CRT mm min.	: > 7.60
Rated speed rpm	: 400
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 1050 : 11.85 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 800 : 11.60 : ← 0.10
Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm rack travel mm Tolerance mm	: 950 : 11.75 : ← 0.10
Rated speed rpm rack travel mm Tolerance mm	: 600 : 10.40 : + 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1050 : 1600 : 11.85 : +- 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 1050 : 9.35 : + 0.10
TOTE MILLE MIN	
	: 1050
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1050 : 725 : 11.00 : ← 0.05

FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure	
hPa	: -
Rated speed rpm	: 800
Del. quantity	
cm3/1000 strokes	: 294.0
cm3/1000 strokes	: +- 3.0
Check tolerance	3.0
cm3/1000s.	: +- 6.0
Aneroid pressure	
hPa	• _
Rated speed rpm	500
	. 500
Del. quantity	274 0
cm3/1000 strokes	
cm3/1000 strokes	: 3.0
Check tolerance	
cm3/1000s.	: +- 6.0
	0.0
Aneroid pressure	
hPa `	: -
Rated speed rpm	: 550
Del. quantity	. 550
	. 2/7 5
cm3/1000 strokes	: 247.5
cm3/1000 strokes	: +- 1.0
Check tolerance	
cm3/1000s.	: +- 4.0
Spreed	
cm3/1000 strokes	: 8.0
Check tolerance	. 0.0
cm3/1000s.	: 12.0
CM3/ TUUUS.	: 12.0
BREAKAWAY	
Bardi Americal de esc	. 40.05
Rack travel in mm	
Rated speed rpm	: 1105
Tolerance 1/min	: +- 5
STARTING FUEL DEL	IVERY
Dated aread non	. 100
Rated speed rpm	: 100
rack travel mm	: 9.40
Tolerance mm	: +- 0.20
Del. quantity	
cm3/1000 strokes	: 160.0
cm3/1000 strokes	: +- 10.0
Check tolerance	• • • • •
	. 44 5
CM 4 / 71 H H I C	• +- 14 11
cm3/1000s.	: +- 14.0

LOW IDLE

Rated speed rpm	:		300
Del. quantity cm3/1000 strokes	:		23.0
cm3/1000 strokes	:	+-	3.0
Check tolerance			
cm3/1000s.	:	+-	6.0
Spreed			
cm3/1000 strokes	:		6.0
Check tolerance			
cm3/1000s.	:		10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 15.11.96 Test oil : ISO 4113

Combination No. : 0 402 648 967A

Injection pump

Pump designation : PE8P120A320LS7871 EP type number : 0 412 628 877

Governor

Governer design. : RQV300...1050PA1078

: -1K

Governer no. : 0 421 815 361

Cust. part No. : 9275447

Customer—spec. information
Customer : LIEBHERR
Motor : D 9408 TI
Power KW : 400.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5
Tolerance bar : +- 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.65
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-8-7-2-6

: - 3- 5- 4

Phasing : 0-45-90-135-180

: -225-270-315

Tolerance : \leftarrow 0.30

Check

tolerance *NW : +- 0.50

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 11.85
Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 277.5

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 4.0

Spreed

cm3/1000 strokes : 5.0

Ohaal, Aslasanaa	
Check tolerance cm3/1000s. 9.0	GUIDE SLEEVE POSITION
P-AI 700	4405
Rated speed rpm : 300	+ Rated speed rpm : 1185
	Rack travel in mm: 10.80
Rack travel in mm: 5.40	† Tolerance mm : d= 1.30
Tolerance mm : +- 0.10 Del. quantity	İ
cm3/1000 strokes : 23.0	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes : + 3.0	
Check tolerance cm3/1000s. : +- 6.0	+ Rated speed rpm : 1050 + Aneroid pressure
Spreed	+ hPa : -
cm3/1000 strokes : 6.0	→ Del. quantity
Check tolerance cm3/1000s. : 10.0	+ cm3/1000 strokes : 277.5 + cm3/1000 strokes : +- 1.0
cm3/1000s. : 10.0	+ Check tolerance
	+ cm3/1000s. : +- 4.0
(B) SETTING OF INJECTION PUMP	+ Spreed
WITH GOVERNOR	+ cm3/1000 strokes : 5.0 + Check tolerance
	+ cm3/1000s. : 9.0
GUIDE SLEEVE TRAVEL	+
Rated speed rpm : 300	İ
guide sleeve	CONTROL LEVER
travel mm : 1.69	+
Tolerance mm : \leftarrow 0.25	control leverposition degree : 121.0
Rated speed rpm : 1117	tolerance degree : +- 4.0
guide sleeve	+
travel mm : 10.38 Tolerance mm : +- 0.25	RATED SPEED
Toterance min : +- 0.25	rack travel mm : 10.85
Rated speed rpm : 746	Rated speed rpm : 1105
guide sleeve	+ Tolerance 1/min : + 5
travel mm : 6.20 Tolerance mm : +- 0.25	rack travel mm : 4.00
	Rated speed rpm : 1185
Rated speed rpm : 353	+ Tolerance 1/min : + 15
guide sleeve travel mm : 2.45	rack travel mm : 0.50
Tolerance mm : + 0.25	Tolerance mm : + 0.50
	+ Rated speed rpm : 1300
Rated speed rpm : 403 guide sleeve	İ
travel mm : 3.18	
Tolerance mm : +- 0.25	+ LOW IDLE
Rated speed rpm : 450	I
guide sleeve	control lever
travel mm : 3.66	position degree : 74.0
Tolerance mm : ← 0.25	tolerance degree : +- 4.0
Rated speed rpm : 1320 guide sleeve	Testing:
travel mm : 13.50	Rated speed rpm : 300
Tolerance mm : +- 0.50	+ rack travel mm : 5.40
cna	

Tolerance mm	: +- 0.10
Rated speed rpm	: 200
CRT mm min.	: > 7.60
Rated speed ripm	: 400
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 1050 : 11.85 : ← 0.05
Rated speed rpm rack travel mm Tolerance mm	: 800 : 11.60 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 500 : 9.75 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 950 : 11.75 : ← 0.10
Rated speed rpm rack travel mm Tolerance mm	: 600 : 10.40 : + 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1050 : 1600 : 11.85 : +- 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 1050 : 9.35 : +- 0.10
Rated speed rpm	: 1050
Pressure hPa	: 725 : 11.00
rack travel mm Tolerance mm	: 11.00 : + 0.05

FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure	
hPa	: -
Rated speed rpm	: 800
Del. quantity	
cm3/1000 strokes	: 294.0
cm3/1000 strokes	: ← 3.0
Check tolerance	
cm3/1000s.	: +- 6.0
Aneroid pressure	
hPa	: -
Rated speed rpm	: 500
	. 300
Del. quantity	074.0
cm3/1000 strokes	: 271.0
cm3/1000 strokes	: ← 3.0
Check tolerance	
cm3/1000s.	: +- 6.0
CIIID7 10003.	
Aneroid pressure	
hPa	: -
Rated speed rpm	: 550
Del. quantity	. 330
	2/7 5
cm3/1000 strokes	: 247.5
cm3/1000 strokes	: +- 1.0
Check tolerance	
cm3/1000s.	: +- 4.0
Spreed	
cm3/1000 strokes	: 8.0
Check tolerance	
cm3/1000s.	: 12.0
BREAKAWAY	
Rack travel in mm	
Rated speed rpm	: 1105
Tolerance 1/min	: +- 5
7	
STARTING FUEL DELI	
Rated speed rpm	: 100
rack travel mm	9.40
	. 7.40
Tolerance mm	: +- 0.20
Del. quantity	
cm3/1000 strokes	: 160.0
cm3/1000 strokes	: +- 10.0
Check tolerance	
VIICON LUCEI GIILE	

Check tolerance cm3/1000s.

: +- 14.0

LOW IDLE

Rated speed rpm : 300

Del. quantity
cm3/1000 strokes : 23.0
cm3/1000 strokes : + 3.0

Check tolerance
cm3/1000s. : + 6.0

Spreed
cm3/1000 strokes : 6.0

Check tolerance
cm3/1000s. : 10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 20.11.96 Test oil : ISO 4113

Combination No. : 0 402 670 812

Injection pump

Pump designation : PE12P12OA32OLS7902 EP type number : 0 412 620 848

Governor

Governer design. : RSV350...1050P0A662

Governer no. : 0 421 833 579

Cust. part No. : 027 074 4302

Customer—spec. information
Customer : MB-NFZ
Motor : OM 444 LA
Power KW : 448.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 077

Inlet press. bar : 1.5

Overflow quantity

min. L/h : 110 Tolerance L/h : +- 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 12-1-5-9-8

: - 3- 4- 11- 10 : - 2- 6- 7

Phasing : 0-45-60-105-120

: -165-180-225-240 : -285-300-345

Tolerance : \leftarrow 0.30

Check

tolerance *NW : + 0.50

Start of delivery mark

Tolerance : + 0.10

Check

tolerance *NW : + 0.75

Barrel no. : 12

BASIC SETTING

Rated speed rpm : 1030

	+ Check tolerance
Rack travel in mm : 14.50 Tolerance mm : +- 0.05	+ cm3/1000s. : + 4.0 + Spreed
No. I grantitu	- cm3/1000 strokes : 5.0
Del. quantity cm3/1000 strokes : 214.0	+ Check tolerance - cm3/1000s. : 9.0
cm3/1000 strokes : + 1.0	
Check tolerance cm3/1000S. : +- 4.0	CONTROL LEVER
Spreed cm3/1000 strokes : 5.0	position degree : 94.0 tolerance degree : + 4.0
Check tolerance cm3/1000s. : 9.0	ASSEMBLY GOVERNOR SETTING
Rated speed rpm : 350	Rated speed rpm : 1070 rack travel mm : 13.50
Rack travel in mm : 6.20	Rated speed rpm : 1160
Tolerance mm : +- 0.10	Tolerance 1/min : + 4
Del. quantity cm3/1000 strokes : 19.0	rack travel mm : 4.00
cm3/1000 strokes : +- 3.0	rack travel mm : 0.85
Check tolerance	Tolerance mm : + 0.55
$cm3/1000s$. : \leftarrow 6.0	Rated speed rpm : 1350
Spreed	4074
cm3/1000 strokes : 8.0 Check tolerance	+ Rated speed rpm : 1071 + rack travel mm : 13.50
cm3/1000s. : 12.0	Track travel mm : 13.30
	Rated speed rpm : 1161
	+ Tolerance 1/min : + 4
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 4.00
	+ rack travel mm : 0.85 + Tolerance mm : +- 0.55
	Toterance min : += 0.55
GUIDE SLEEVE POSITION	Rated speed rpm : 1072
	rack travel mm : 13.50
Rated speed rpm : 800	Poted aread pro 1162
Rack travel in mm : 0.50	+ Rated speed rpm : 1162 + Tolerance 1/min : + 4
Tolerance mm : +- 0.20	Tolerance 1/min : + 4 + rack travel mm : 4.00
	+
governor spring	rack travel mm : 0.85 Tolerance mm : +- 0.55
pre-tension click setting x : 4.00	† Tolerance mm : +- 0.55
CLICK SELLING X . 4.00	Rated speed rpm : 1073
	+ Rated speed rpm : 1073 + rack travel mm : 13.50
FULL LOAD DELIVERY AT FULL LOAD STOP	+
Poted speed nom . 1070	+ Rated speed rpm : 1163 + Tolerance 1/min : + 4
Rated speed rpm : 1030 Aneroid pressure	+ rack travel mm : 4.00
hPa : 1250	+
Del. quantity	rack travel mm : 0.85 Tolerance mm : +- 0.55
cm3/1000 strokes : 214.0 cm3/1000 strokes : +- 1.0	† Tolerance mm : +- U.55
CIID/ (UUU SETURES : +- 1.U	Rated speed rpm : 1074

rack travel mm	: 13.50	t
Rated speed rpm Tolerance 1/min rack travel mm		ANEROID/ALTITUDE COMPENSATOR TEST
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : +- 0.55 : 1350	SETTING Rated speed rpm : 500 Pressure hPa : 1250
Rated speed rpm rack travel mm	: 1075 : 13.50	rack travel mm : 4.70 Tolerance mm : +- 0.20
Rated speed rpm Tolerance 1/min rack travel mm	: 1165 : +- 4 : 4.00	MEASUREMENT Pressure hPa : -
rack travel mm Tolerance mm	: 0.85 : +- 0.55	Rated speed rpm : 500 Rated speed rpm : 500
LOW IDLE		Pressure hPa : 300 rack travel mm : 1.10 Tolerance mm : + 0.05
control lever position degree tolerance degree		Pressure hPa : 650 + rack travel mm : 4.05 + Tolerance mm : + 0.20
T		+
Testing:	. 350	<u> </u>
Rated speed rpm rack travel mm Tolerance mm		FUEL DELIVERY CHARACTERISTICS
Rated speed rpm rack travel mm	: 6.20	Aneroid pressure hPa : 1250 Rated speed rpm : 800 Del. quantity
Rated speed rpm rack travel mm Tolerance mm rack travel mm Rated speed rpm	: 6.20 : + 0.10 : 2.00 : 405	Aneroid pressure hPa : 1250 Rated speed rpm : 800 Del. quantity cm3/1000 strokes : 216.0 cm3/1000 strokes : +- 3.0
Rated speed rpm rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min	: 6.20 : + 0.10 : 2.00 : 405 : + 30	Aneroid pressure hPa : 1250 Rated speed rpm : 800 Del. quantity cm3/1000 strokes : 216.0 cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed
Rated speed rpm rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. SET IDLE AUXILIAN	: 6.20 : + 0.10 : 2.00 : 405 : + 30 : 100 : > 9.30 RY SPRING	Aneroid pressure hPa : 1250 Rated speed rpm : 800 Del. quantity cm3/1000 strokes : 216.0 cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed cm3/1000 strokes : 8.0 Check tolerance
Rated speed rpm rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min.	: 6.20 : + 0.10 : 2.00 : 405 : + 30 : 100 : > 9.30 RY SPRING	Aneroid pressure hPa : 1250 Rated speed rpm : 800 Del. quantity cm3/1000 strokes : 216.0 cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 12.0
Rated speed rpm rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. SET IDLE AUXILIAN	: 6.20 : + 0.10 : 2.00 : 405 : + 30 : 100 : > 9.30 RY SPRING	Aneroid pressure hPa : 1250 Rated speed rpm : 800 Del. quantity cm3/1000 strokes : 216.0 cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 Aneroid pressure hPa : -
Rated speed rpm rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. SET IDLE AUXILIANT RACK travel mm	: 6.20 : + 0.10 : 2.00 : 405 : + 30 : 100 : > 9.30 RY SPRING	Aneroid pressure hPa : 1250 Rated speed rpm : 800 Del. quantity cm3/1000 strokes : 216.0 cm3/1000 strokes : + 3.0 Check tolerance cm3/1000 strokes : 8.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 135.0 cm3/1000 strokes : + 1.0
Rated speed rpm rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. SET IDLE AUXILIAN rack travel mm TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: 6.20 : + 0.10 : 2.00 : 405 : + 30 : 100 : > 9.30 RY SPRING : 2.00 : 1030 : 14.50 : + 0.05 : 800	Aneroid pressure hPa : 1250 Rated speed rpm : 800 Del. quantity cm3/1000 strokes : 216.0 cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : +- 6.0 Spreed cm3/1000s. : +- 6.0 Aneroid pressure hPa : Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 135.0 cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0
Rated speed rpm rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. SET IDLE AUXILIAN rack travel mm TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 6.20 : + 0.10 : 2.00 : 405 : + 30 : 100 : > 9.30 RY SPRING : 2.00 : 1030 : 14.50 : + 0.05 : 800	Aneroid pressure hPa : 1250 Rated speed rpm : 800 Del. quantity cm3/1000 strokes : 216.0 cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000 strokes : 8.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 Aneroid pressure hPa : Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 135.0 cm3/1000 strokes : +- 1.0 Check tolerance

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity cm3/1000 strokes : 220.0 cm3/1000 strokes : + 15.0

Check tolerance cm3/1000s. : +- 19.0

LOW IDLE

Rated speed rpm : 350

Del. quantity cm3/1000 strokes : 19.0 cm3/1000 strokes : +- 3.0

Check tolerance cm3/1000s. : +- 6.0

Spreed

cm3/1000 strokes : 8.0

Check tolerance

: 12.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 19.11.96 Test oil : ISO 4113

Combination No. : 0 402 698 033

Injection pump

Pump designation : PE8H120/320LS3-2 EP type number : 0 412 628 003

Governor

Governer design. : RE36

Governer no. : 0 421 890 359

Cust. part No. : 0250745602

Customer—spec. information Customer : MB-NFZ Motor : OM 442 LA

TEST BENCH REQUIREMENTS

Inlet line : 3.2 ELAB

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 3.0 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS No basic setting. Setting of constant delivery under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 7.00
Tolerance mm : + 0.05
Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50
Tolerance mm : + 0.50

Firing order : 8-7-2-6-3 :-5-4-1

Phasing : 0-45-90-135-180 : -225-270-315

Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

Start of delivery mark

Tolerance : + 0.50 Check

tolerance *NW : + 0.75

Barrel no. : 8

(B) POSITIONER TESTING Warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 V

	+ Test with control rod
TESTING & SETTING RACK TRAVEL SENSOR POSITION	in stop position
	+ Engine speed min-1: 60
Engine speed min-1: 0	Amplitude V : 1.4 + Tolerance V : +/- 0.6
Setting point	- Check
(P, R and H pump)	tolerance V : 1/- 1.20
Uact V : 3.100 CRT mm : 13.00	+ Engine speed min-1: 600
	+ Difference
Tolerance mm : +/- 0.05	Amplitude to max.1.4
Check tolerance mm : +/- 0.10	Amplitude V : max.1.4
Coter diffee fight . 17 0.10	1
Check value (P, R and H pump)	(C) INJECTION PUMP WITH POSITIONER
	TEST POINT V1
Uact V : 1.700	T 1501 LOTIAL A1
CRT mm : 6.15	Rated speed rpm : 750
Tolerance mm : +/- 0.25	+ Uact V : 2.800
Check	+ Prestroke solenoid + Stroke mm : 7.40
tolerance mm : +/- 0.30	Stroke mm : 7.40 + Del. quantity
	+ cm3/1000 strokes : 341.0
Setting point	+ cm3/1000 strokes : +- 1.0
(M pump)	+ Check tolerance
Unat V	+ cm3/1000s. : + 4.0
Uact V : 3.100 CRT mm : 12.50	+ Spreed + cm3/1000 strokes : 5.0
Tolerance mm : +/- 0.05	+ Check tolerance
Check	+ cm3/1000s. : 9.0
tolerance mm : +/- 0.10	+ FUEL DELIVERY CHARACTERISTICS
Check value	T FOEL DELIVERY CHARACTERISTICS
(M pump)	Rated speed rpm : 950
	+ Uact V : 2.900
Uact V : 1.700	Prestroke solenoid
CRT mm : 5.50 Tolerance mm : +/- 0.25	+ Stroke mm : 8.00 + Del. quantity
Check	+ cm3/1000 strokes : 328.0
tolerance mm : +/- 0.30	+ cm3/1000 strokes : +- 3.0
O	+ Check tolerance
Stop position	+ cm3/1000s. : + 6.0
Uact V : Value with	+ Rated speed rpm : 550
deenergised adjusting magnet	+ Uact V : 2.700
and control rod in	+ Prestroke solenoid
stop position. CRT mm : 0.75	+ Stroke mm : 9.50 + Del. quantity
Tolerance mm : +/- 0.25	- cm3/1000 strokes : 348.0
Check	+ cm3/1000 strokes : +- 3.0
tolerance mm : +/- 0.35	+ Check tolerance
	+ cm3/1000s. : +- 6.0
ENGINE-SPEED SENSOR	Rated speed rpm : 630
(All P and R pumps not	+ Uact V : 2.000
H and M pumps)	Prestroke solenoid
	+ Stroke mm : 5.30

Del. quantity cm3/1000 strokes : 201.0

TEST POINT L1

Rated speed rpm : 300 1.500 Uact V : + 0.060 Tolerance Volt Check tolerance Volt : +- 0.060 Prestroke solenoid Stroke mm 8.00 Del. quantity cm3/1000 strokes : 31.0 cm3/1000 strokes : +- 3.0 Spreed cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 9.0

STARTING FUEL DELIVERY

100 Rated speed rpm : 1.900 Uact V

Prestroke solenoid

10.00 Stroke mm

Del. quantity

cm3/1000 strokes : 108.0 cm3/1000 strokes : +- 10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 19.11.96 Edition Test oil : ISO 4113

Combination No. : 0 402 746 6090

Injection pump

Pump designation : PES6P130A720RS7411

EP type number : 0 412 736 808

Governor

Governer design. : RQ275/950PA1274

Governer no. : 0 421 801 807

Cust. part No. : 221 575

Customer-spec. information

Customer : RABA

: siehe Bemerkung Motor

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

Tolerance °C temp. °C : + 2.0

Overflow valve : 1 417 413 047

1.5 Inlet press. bar : Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

Tolerance bar : +- 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : Tolerance mm : 5.50 : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 20.50 Tolerance mm : \leftarrow 0.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300 Tolerance : +- 0.30

Check

tolerance °NW : ← 0.50

Start of delivery mark

: + 0.10 Tolerance

Check

tolerance *NW : **←** 0.75

: 1 Barrel no.

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm: 13.10 : **←** 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 263.0

cm3/1000 strokes : Check tolerance cm3/1000s. :	+ 1.0	guide sleeve travel mm : 11.50 Tolerance mm : + 0.50
Spreed cm3/1000 strokes :	5.0	GUIDE SLEEVE POSITION Rated speed rpm : 1155
Check tolerance cm3/1000s. :	9.0	Rack travel in mm : 12.10 Tolerance mm : + 1.30
Rated speed rpm :	275	
Del. quantity cm3/1000 strokes : cm3/1000 strokes : Check tolerance cm3/1000s. : Spreed cm3/1000 strokes : Check tolerance cm3/1000s. :	+ 0.10 24.0 + 3.0 + 6.0 8.0 12.0	FULL LOAD DELIVERY AT FULL LOAD Rated speed rpm : 600 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 263.0 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0
(B) SETTING OF INJE WITH GOVERNOR	TON POMP	CONTROL LEVED
GUIDE SLEEVE TRAVEL		CONTROL LEVER control lever
Rated speed rpm : guide sleeve travel mm : Tolerance mm :	275 2.17 + 0.20	position degree : 34.0 tolerance degree : +- 4.0 control lever position degree : 95.0
Rated speed rpm : guide sleeve	+	tolerance degree : +- 4.0
travel mm : Tolerance mm :	+ 0.15 ±	RATED SPEED rack travel mm : 12.10
Rated speed rpm : guide sleeve travel mm : Tolerance mm :	1050 6.00 + 0.10	Rated speed rpm : 1095 Tolerance 1/min : +- 5 rack travel mm : 4.00
Rated speed rpm : guide sleeve	354	Rated speed rpm : 1190 Tolerance 1/min : +- 15
travel mm : Tolerance mm :	+ 0.10	rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1300
Rated speed rpm : guide sleeve travel mm :	6.00 + 0.10	LOW IDLE
Tolerance mm : Rated speed rpm :	1300	TOM INCE

STOP

		1
control lever position degree tolerance degree	: 73.0 : ← 4.0	+
control lever position degree tolerance degree		+++++++++++++++++++++++++++++++++++++++
Testing:		Ì
Rated speed rpm rack travel mm Tolerance mm	: 275 : 4.20 : + 0.10	+++++++++++++++++++++++++++++++++++++++
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 335 : +- 20	+++++++++++++++++++++++++++++++++++++++
Rated speed rpm	: 175	<u></u>
CRT mm min.	: > 6.80	+
TORQUE CONTROL		Ŧ
Rated speed rpm rack travel mm Tolerance mm	: 600 : 13.10 : + 0.05	† † †
Rated speed rpm rack travel mm Tolerance mm	: 1050 : 13.10 : + 0.10	T + + + + + + + + + + + + + + + + + + +
ANEROID/ALTITUDE COMPENSATOR TEST		+++++
SETTING		Ŧ
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1500 : 13.10 : + 0.05	T + + + + + + + + + + + + + + + + + + +
MEASUREMENT		Ŧ
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 8.20 : + 0.20	T + + + + + + + + + + + + + + + + + + +
Rated speed rpm	: 500	Ŧ
Pressure hPa rack travel mm Tolerance mm	: 380 : 9.85 : + 0.15	T + + + + + + + + + + + + + + + + + + +
Pressure hPa	: 600	+

rack travel mm Tolerance mm	: 12.05 : + 0.05
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	: +- 3.0
cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: +- 6.0 : - : 500 : 147.0 : +- 2.0 : +- 4.0
Rack travel in mm Rated speed rpm Tolerance 1/min	
STARTING FUEL DEL Rated speed rpm rack travel mm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: 100 : 20.50 : 110.0
LOW IDLE Rated speed rpm Del. quantity cm3/1000 strokes	: 275 : 24.0

Check tolerance cm3/1000S.	:	12.0	
	······································		
End of test speci	fica	tion sheet	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 14.11.96 Edition : ISO 4113 Test oil

Combination No. : 0 402 746 627

Injection pump

Pump designation : PES6P120A720LS7262

: -1

EP type number : 0 412 726 918

Governor

Governer design. : RQV350...925PA1331

Governer no. : 0 421 814 190

Cust. part No. : 0240746202

Customer-spec. information Customer : MTU

: 6R183-02 Motor

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C Tolerance *C : +- 2.0

Overflow valve : 2 417 413 047

Inlet press. bar : 1.5 Tolerance bar : +- 0.1

Tolerance l/h: \leftarrow 10.0

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

: 208.5 : **←** 1.5 Tolerance bar

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.02Tolerance mm : \div 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm: 20.50 Tolerance mm : \leftarrow 0.50

Firing order : 6-2-4-1-5-

: 3

Phasing : 0-60-120-180-240

: -300

: +- 0.30 Tolerance

Check

tolerance *NW : +- 0.50

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

: **←** 0.75 tolerance *NW

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 925

Rack travel in mm: 12.30 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 261.0	- - Rack travel in mm : 11.30 - Tolerance mm : +- 1.30
cm3/1000 strokes : + 1.0	-
Check tolerance cm3/1000s. : + 4.0	FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 925
Spreed cm3/1000 strokes : 5.0	- Aneroid pressure - hPa : 1200 - Del. quantity
Check tolerance cm3/1000s. : 9.0	- cm3/1000 strokes : 261.0 - cm3/1000 strokes : +- 1.0 - Check tolerance
Rated speed rpm : 350	- cm3/1000s. : +- 4.0 - Spreed - cm3/1000 strokes : 5.0
Rack travel in mm: 5.20 Tolerance mm: + 0.10 Del. quantity	- cm3/1000 strokes : 5.0 - Check tolerance - cm3/1000s. : 9.0
cm3/1000 strokes : 21.0 + cm3/1000 strokes : + 3.0 + Check tolerance +	CONTROL LEVER
cm3/1000s. : + 6.0 Spreed cm3/1000 strokes : 8.0	control lever position degree : 120.0
Check tolerance cm3/1000s. : 12.0	tolerance degree : +- 4.0 RATED SPEED
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 11.30 Rated speed rpm : 975 Tolerance 1/min : + 5
GUIDE SLEEVE TRAVEL	rack travel mm : 4.00 Rated speed rpm : 1043
Rated speed rpm : 350 guide sleeve	Tolerance 1/min : + 15
travel mm : 1.48 Tolerance mm : + 0.20	rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1250
Rated speed rpm : 988 guide sleeve travel mm : 8.65	
Tolerance mm : + 0.15	LOW IDLE
Rated speed rpm : 485 guide sleeve	control lever
travel mm : 3.02 Tolerance mm : + 0.25	position degree : 66.0 tolerance degree : +- 4.0
Rated speed rpm : 1160 guide sleeve	Testing:
travel mm : 11.50 Tolerance mm : + 0.50	Rated speed rpm : 350 rack travel mm : 5.20 Tolerance mm : + 0.10
GUIDE SLEEVE POSITION	Rated speed rpm : 250
Rated speed rpm : 1028	CRT mm min. :> 7.53

Rated speed rpm	: 450	Del. quantity cm3/1000 strokes : 257.0 cm3/1000 strokes : + 2.0
TORQUE CONTROL		-
Rated speed rpm	: 925	+ cm3/1000 strokes : 8.0
rack travel mm Tolerance mm	: 12.30 : + 0.05	Check tolerance : 12.0
Rated speed rpm	: 750	Aneroid pressure
rack travel mm Tolerance mm	: 12.30 : +- 0.05	hPa : - Rated speed rpm : 500
roter di lee min		+ Del. quantity
ANEROID/ALTITUDE		- + cm3/1000 strokes : 132.5 + cm3/1000 strokes : +- 1.0
COMPENSATOR TEST		+ Check tolerance
		+ cm3/1000s. : +- 4.0 + Spreed
SETTING		- cm3/1000 strokes : 8.0
Data danced num	. 400	Check tolerance cm3/1000s. : 12.0
Rated speed rpm Pressure hPa	: 1200	+ cm3/1000s. : 12.0
rack travel mm	: 12.30	DDENAMAY
Tolerance mm	: +- 0.05	BREAKAWAY
MEASUREMENT		Pools trough in the A4 70
Pressure hPa	: -	+ Rack travel in mm : 11.30 + Rated speed rpm : 975
Rated speed rpm	: 600	Tolerance 1/min : + 5
rack travel mm Tolerance mm		İ
		OTTOTALO FILE DEL TUEDA
Rated speed rpm	: 600	STARTING FUEL DELIVERY
Pressure hPa		Rated speed rpm : 100
rack travel mm Tolerance mm		rack travel mm : 16.50 Tolerance mm : + 0.20
		+ Del. quantity
Pressure hPa rack travel mm	: 800 : 11.60	+ cm3/1000 strokes : 400.0 + cm3/1000 strokes : +- 10.0
Tolerance mm	: +- 0.15	+ Check tolerance
		cm3/1000s. : +- 14.0
START CUT-OUT		<u> </u>
Rated speed rpm	: > 100	
Rated speed rpm	: < 270	+ LOW IDLE
Check		Rated speed rpm : 350
speed 1/min Check	: > 80	+ Del. quantity + cm3/1000 strokes : 21.0
speed 1/min	: < 290	+ cm3/1000 strokes : +- 3.0
•		Check tolerance
FUEL DELIVERY CHA	ARACTERISTICS	- + cm3/1000s. : +- 6.0 + Spreed
		+ cm3/1000 strokes : 8.0
Aneroid pressure hPa	: 1200	+ Check tolerance + cm3/1000s. : 12.0
Rated speed rpm	: 750	+

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 18.11.96 Edition : ISO 4113 Test oil

Combination No. : 0 403 476 116

Injection pump

Pump designation : PES6MW100/720RS1131

EP type number : 0 413 406 123

Governor

Governer design. : RSV350...1300MW0A329

: -14

: 0 420 085 192 Governer no.

Cust. part No. : 0220742202

Customer-spec. information Customer : MB-NFZ : OM 366 A Motor Power KW : 125.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : + 2.0 Tolerance °C

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 : +- 1.5 Tolerance bar

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : +- 1.0

Prestroke mm : 3.75 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance "NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1280

Rack travel in mm: 10.55 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 89.0

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

cm3/1000 strokes : 3.5

Check tolerance		+	
cm3/1000s.	: 6.0	+ rack travel mm	
		+ Rated speed rpm	: 1420
Rated speed rpm	: 350	+	
·		ASSEMBLY GOVERNOR	SETTING
		+	
Rack travel in mo	n: 5.80	+ Rated speed rpm	: 1330
Tolerance mm		+ rack travel mm	
Del. quantity		+	
cm3/1000 strokes	: 12.0	+ Rated speed rpm	: 1414
cm3/1000 strokes		+ Tolerance 1/min	: + 4
Check tolerance		+ rack travel mm	4.00
cm3/1000s.	: +- 4.5		
Spreed	• • • • • • • • • • • • • • • • • • • •	Rated speed rpm	: 1331
cm3/1000 strokes	. 35	rack travel mm	• 050
Check tolerance		T Tack Claver min	. 7.50
cm3/1000s.		T Poted speed non	: 1415
CMS/ 10005.	; 3,3	Rated speed rpm	
		Tolerance 1/min	
(D) CETTING OF TH	LICCTION DUMP	† rack travel mm	: 4.00
(B) SETTING OF IN	ACCITON LOWL	T Batad and all	. 1770
WITH GOVERNOR		+ Rated speed rpm + rack travel mm	: 1332
		+ rack travel mm	: 9.50
		T Salah and	4141
		Rated speed rpm	: 1416
GUIDE SLEEVE POSI	TITOM	+ Tolerance 1/min	
	000	† rack travel mm	: 4.00
Rated speed rpm	: 800	†	A ********
	.	+ Rated speed rpm	: 1333
Rack travel in mo		rack travel mm	: 9.50
Tolerance mm	: +- 0.35	+	
		+ Rated speed rpm	: 1417
		Tolerance 1/min	
FULL LOAD DELIVER	RY AT FULL LOAD STOP	† rack travel mm	: 4.00
		+	
Rated speed rpm		+ Rated speed rpm	: 1338
Aneroid pressure		+ rack travel mm	: 9.50
hPa	: 800	+	
Del. quantity		+ Rated speed rpm	: 1422
cm3/1000 strokes	: 89.0	† Tolerance 1/min	: +- 4
cm3/1000 strokes	: - 1.0	+ rack travel mm	: 4.00
Check tolerance		+	
cm3/1000s.	: ← 3.0	+ Rated speed rpm	: 1339
Spreed		+ rack travel mm	: 9.50
cm3/1000 strokes	: 3.5	+	
Check tolerance		+ Rated speed rpm	: 1423
cm3/1000s.	: 6.0	+ Tolerance 1/min	: +- 4
		+ rack travel mm	: 4.00
		+	
		+	
CONTROL LEVER		+ LOW IDLE	
		+	
control lever		+	
position degree	: 114.0	+ control lever	
tolerance degree		<pre>position degree</pre>	: 79.0
	7 -	+ tolerance degree	
RATED SPEED		+	
		+ Testing:	
rack travel mm	: 1.00	+	
Tolerance mm	: +- 0.70	Rated speed rpm	: 350
Rated speed rpm		+ rack travel mm	: 5.80
	. ,,,,,	t	

Tolerance mm	
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 450 : +- 30
Rated speed rpm	: 100
CRT man min.	: > 19.00
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 1280 : 10.55 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 800 : 11.25 : ← 0.10
Rated speed rpm rack travel mm Tolerance mm	: 1100 : 10.90 : ← 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Pressure hPa rack travel mm	: 500 : 800 : 10.25 : + 0.10
Pressure hPa rack travel mm Tolerance mm	: 800 : 10.25
Pressure hPa rack travel mm Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm rack travel mm	: 800 : 10.25
Rated speed rpm Pressure hPa rack travel mm Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: 800 : 10.25 : +- 0.10 : - : 500 : 9.30
Pressure hPa rack travel mm Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: 800 : 10.25 : + 0.10 : - : 500 : 9.30 : + 0.10

Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	: 800 : 800 : 88.0 : + 1.5 : - 4.0 : 5.0 : 7.0 :0 : 50.0 : + 1.0
cm3/1000s.	:
STARTING FUEL DEL	IVERY
Rated speed rpm	400
Del. quantity	: 100
Del. quantity cm3/1000 strokes cm3/1000 strokes	: 83.0 : + 5.0
Del. quantity cm3/1000 strokes	: 83.0
Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	: 83.0 : + 5.0
Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	: 83.0 : + 5.0
Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. LOW IDLE Rated speed rpm	: 83.0 : + 5.0
Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: 83.0 : +- 5.0 : +- 8.0
Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. LOW IDLE Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: 83.0 : + 5.0 : + 8.0 : 350 : 12.0
Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. LOW IDLE Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes	: 83.0 : + 5.0 : + 8.0 : 350 : 12.0 : + 2.0
Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. LOW IDLE Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: 83.0 : + 5.0 : + 8.0 : + 8.0 : 12.0 : + 2.0 : + 4.5

End of test specification sheet

FUEL DELIVERY CHARACTERISTICS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 18.11.96 Test oil : ISO 4113

Combination No. : 0 403 476 147

Injection pump

Pump designation : PES6MW100/720RS1131

: -1

EP type number : 0 413 406 165

Governor

Governer design. : RSV750...1200MW0A329

: -17

Governer no. : 0 420 085 291

Cust. part No. : 0270747902

Customer-spec. information
Customer : MB-NFZ
Motor : 0M366LA
Power KW : 163.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

ber : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 3.65Tolerance mm : $\leftarrow 0.05$

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1180

Rack travel in mm : 13.15 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 104.0

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

cm3/1000 strokes : 3.5

	
Check tolerance	RATED SPEED
cm3/1000s. : 6.0	The of EED
CIII) 10003 0.0	1 00
700	rack travel mm : 1.00
Rated speed rpm : 750	Tolerance mm : +- 0.70
•	Rated speed rpm : 1400
	1
Rack travel in mm: 4.70	ASSEMBLY GOVERNOR SETTING
	AUDERDET GOVERNOR DE TING
	1070
Del. quantity	Rated speed rpm : 1230
cm3/1000 strokes : 12.0	rack travel mm : 12.10
cm3/1000 strokes : + 2.0 -	+
Check tolerance cm3/1000s. : +- 4.5	Rated speed rpm : 1314
cm3/1000s. : +- 4.5	Tolerance 1/min : +- 4
Spreed	rack travel mm : 4.00
cm3/1000 strokes : 3.5	T Tack Clavet imil . 4.00
	1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Check tolerance	Rated speed rpm : 1231
cm3/1000s. : 5.5	rack travel mm : 12.10
•	1
	Rated speed rpm : 1315
(B) SETTING OF INJECTION PUMP	Tolerance 1/min : + 4
	rack travel mm : 4.00
WITH GOVERNOR -	rack travet mm : 4.00
•	t
•	Rated speed rpm : 1232
	rack travel mm : 12.10
GUIDE SLEEVE POSITION -	
	Rated speed rpm : 1316
Rated speed rpm : 800 -	Tolerance 1/min : +- 4
Rated speed rpm : 800 -	
	rack travel mm : 4.00
Rack travel in mm: 0.65 -	
Tolerance mm : + 0.35	Rated speed rpm : 1233
-	rack travel mm : 12.10
governor spring	
pre-tension	Rated speed rpm : 1317
click setting x : 4.75	Tolerance 1/min : + 4
7	rack travel mm : 4.00
	-
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 1238
-	rack travel mm : 12.10
Rated speed rpm : 1180	
Aneroid pressure	Rated speed rpm : 1322
hPa : 1000	Tolerance 1/min : +- 4
Del. quantity	rack travel mm : 4.00
cm3/1000 strokes : 104.0	
cm3/1000 strokes : +- 1.0	Rated speed rpm : 1239
Check tolerance	rack travel mm : 12.10
cm3/1000s. : $+-3.0$	
Spreed	- Rated speed rpm : 1323
opreed 7.5	Folerance 1/min : +- 4
cm3/1000 strokes : 3.5	
Check tolerance	rack travel mm : 4.00
cm3/1000s. : 6.0	-
•	
	- LOW IDLE
CONTROL LEVER	
CONTROL LEVER	and the land
	control lever
control lever	- position degree : 86.0
position degree : 103.0	tolerance degree : + 4.0
tolerance degree : +- 4.0	
TOTAL MILES HELD TO THE TOTAL MILES	- Testing:
	.00011186

Rated speed rpm rack travel mm Tolerance mm	: 750 : 4.70 : ← 0.25
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 785 : +- 25
Rated speed rpm	: 100
CRT mm min.	: > 19.00
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm rack travel mm Tolerance mm	: 600 : 13.15 : ← 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1000 : 13.15 : ← 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm Tolerance mm	: - : 500 : +- 0.10
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 500 : 2.25 : +- 0.15
Pressure hPa rack travel mm Tolerance mm	: 350 : 1.10 : +- 0.05
FUEL DELIVERY CHA	PACTEDISTICS

Del. quantity cm3/1000 strokes cm3/100C strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance cm3/1000s.	: 97.0 : + 1.5 : + 4.0 : 5.0 : 7.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: - : 500 : 43.0 : + 1.0 : + 3.0
STARTING FUEL DEL	IVERY
Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: 100 : 105.0 : + 5.0 : + 8.0
LOW IDLE	
Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance cm3/1000s.	: 750 : 12.0 : + 2.0 : + 4.5 : 3.5 : 5.5
End of test speci	fication sheet

Aneroid pressure hPa hPa : 1000 Rated speed rpm : 600

H04

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 22.11.96 : ISO 4113

Combination No. : 9 400 087 473

Injection pump

Pump designation : PE6P12OA32ORS3178-1

EP type number : 0 411 826 764

Governor

Governer design. : RQV250...950PA921

: -13

Governer no.

: 0 421 813 796

Cust. part No. : 470.000004

Customer-spec. information

Customer

: VOLVO-TRUCK

Motor

: TD 122 FK, FR

Power KW

: 287.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

40

Tolerance °C : + 2.0

Overflow valve : 2 417 413 046

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 019

Opening pressure

bar

Tolerance bar

: 208.5

Test lines : 1 680 750 075

Outside diameter : 8 ?

H05

x inside diameter : 3 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : +- 1.0

: 3.65 Prestroke mm : +- 0.05 Tolerance mm

Check

: **←** 0.10 tolerance mm

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 14.25 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 260.0

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s.

: +-4.0

Spreed

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s.

: 9.0

Rated speed rpm	: 250	† Ameroid pressure	
		+ hPa + Del. quantity	: 1200
Rack travel in mm	n : 4.95	cm3/1000 strokes	260.0
Tolerance nm		+ cm3/1000 strokes	
Del. quantity		+ Check tolerance	
cm3/1000 strokes		+ cm3/1000s.	: +- 4.0
cm3/1000 strokes	: +- 2.5	+ Spreed	
Check tolerance		cm3/1000 strokes	
cm3/1000s.	: + 5.5	+ Check tolerance cm3/1000s.	
Spreed cm3/1000 strokes	: 5.0	I clib/1000s.	. 9.0
Check tolerance	. 5.6	I	
cm3/1000s.	: 7.0	 	
		CONTROL LEVER	
(B) SETTING OF IN	NJECTION PUMP	T control lever	
WITH GOVERNOR		+ position degree	
		tolerance degree	
GUIDE SLEEVE TRAV	/F\	control lever	
TEATH VEHICLE III		+ position degree	: 121.0
Rated speed rpm	: 250	+ tolerance degree	
guide sleeve		+	
travel mm	: 1.20	+ RATED SPEED	
Tolerance mm	: + 0.20	t rack travel mm	: 13.20
Rated speed rpm	: 985	Rated speed rpm	
guide sleeve	. ,,,,	Tolerance 1/min	
travel mm	: 8.20	+	- -
Tolerance mm		rack travel mm	
		+ Rated speed rpm	
Rated speed rpm	: 450	† Tolerance 1/min	: +- 15
guide sleeve	. 7.00	†	. 0.50
travel mm Tolerance mm	: 3.90 : +- 0.30	+ rack travel mm + Tolerance mm	: 0.50 : +- 0.50
roceratice nim	. +- 0.50	Rated speed rpm	
Rated speed rpm	: 700	+	
guide sleeve		}	
travel mm	: 6.50		
Tolerance mm	: ← 0.10	+ LOW IDLE	
Rated speed rpm	• 1060	İ	
auide sleeve	. 1000	T control lever	
travel mm	: 9.60	+ position degree	: 65.0
guide sleeve travel mm Tolerance mm	: - 0.20	tolerance degree	: +- 4.0
		t control lever	
GUIDE SLEEVE POSI	TION	position degree	: 10.0
	4000	tolerance degree	: +- 4.0
Rated speed rpm	: 1000	† Testing:	
Rack travel in mm	: 16.50	+	
Tolerance mm	: + 1.30	+ Rated speed rpm	: 250
		rack travel mm Tolerance mm	: 4.95
F	W AT FILL LAAR STOR	† Tolerance mm	: +- 0.15
FULL LOAD DELIVER	Y AT FULL LOAD STOP	Rated speed rpm	: 100
Rated speed rpm	: 700	- Nateu speed (pill	. 100
Havea opeca i pili		∔ CRT mm min.	: > 6.50
		•	
HUY.			

Rated speed rpm : 315

TORQUE CONTROL

Rated speed rpm : 700 rack travel mm : 14.25 Tolerance mm : + 0.05

ANEROID/ALTITUDE

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 14.25
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 865 rack travel mm : 3.80 Tolerance mm : +- 0.10

Pressure hPa : 100 rack travel mm : 0.25 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : Rated speed rpm : 700
Del. quantity

cm3/1000 strokes : 164.0 cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. : +- 4.0

BREAKAWAY

Rack travel in mm: 13.20
Rated speed rpm: 995
Tolerance 1/min: +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50

Del. quantity

cm3/1000 strokes : 290.0 cm3/1000 strokes : + 20.0

Check tolerance

cm3/1000s. : +- 24.0

LOW IDLE

Rated speed rpm : 250

Del. quantity

cm3/1000 strokes : 20.0 cm3/1000 strokes : + 2.5

Check tolerance

cm3/1000s. : + 5.5

Spreed

cm3/1000 strokes : 5.0

Check tolerance cm3/1000s.

7.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 25.11.96 Test oil : ISO 4113

Combination No. : 0 400 874 256

Injection pump

Pump designation : PES4A95D410RS2877 EP type number : 0 410 894 988

Governor

Governer design. : RSV350...1400A0C819L

Governer no. : 0 420 232 617

Cust. part No. :

Customer—spec. information Customer : MB—NFZ Motor : OM364 Power KW : 65.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.25
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Tolerance : + 0.50

Check

tolerance *NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 10.55

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 72.0

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

cm3/1000 strokes : 3.5

3.3

Check tolerance cm3/1000s. : 8.0	+ ASSEMBLY GOVERNOR SETTING
Rated speed rpm : 350	Rated speed rpm : 1433 rack travel mm : 9.55
Rack travel in mm: 6.70 Tolerance mm: + 0.20 Del. quantity	Rated speed rpm : 1488 Tolerance 1/min : '- 6 rack travel mm : 4.00
<pre>cm3/1000 strokes : 12.0 cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.5 Spreed</pre>	rack travel mm : 1.00 Tolerance mm : + 0.70 Rated speed rpm : 1620
cm3/1000 strokes : 5.5 Check tolerance cm3/1000s. : 9.0	Rated speed rpm : 1434 rack travel mm : 9.55
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 1489 Tolerance 1/min : + 6 rack travel mm : 4.00
	rack travel mm : 1.00 Tolerance mm : + 0.70 Rated speed rpm : 1620
GUIDE SLEEVE POSITION Rated speed rpm : 800	Rated speed rpm : 1435 rack travel mm : 9.55
Rack travel in mm : 0.50 Tolerance mm : + 0.20	Rated speed rpm : 1490 Tolerance 1/min : +- 6 rack travel mm : 4.00
governor spring pre-tension click setting x : 4.00	rack travel mm : 1.00 Tolerance mm : +- 0.70 Rated speed rpm : 1620
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 1436 rack travel mm : 9.55
Rated speed rpm : 1380 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 72.0	Rated speed rpm : 1491 Tolerance 1/min : + 6 rack travel mm : 4.00
cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0 Spreed	rack travel mm : 1.00 Tolerance mm : +- 0.70 Rated speed rpm : 1620
cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 8.0	Rated speed rpm : 1437 rack travel mm : 9.55
	Rated speed rpm : 1492 Tolerance 1/min : + 6 rack travel mm : 4.00
control lever position degree : 111.0	rack travel mm : 1.00 Tolerance mm : + 0.70 Rated speed rpm : 1620
tolerance degree : +- 4.0	Rated speed rpm : 1438 rack travel mm : 9.55

Rated speed rpm : 1493 Tolerance 1/min : + 6 rack travel mm : 4.00 rack travel mm : 1.00 Tolerance mm : \leftarrow 0.70

Rated speed rpm : 1620

LOW IDLE

control lever

position degree : 80.0 tolerance degree : +- 4.0

Testing:

Rated speed rpm : 350 rack travel mm : 6.70 : + 0.20 Tolerance mm

rack travel mm : Rated speed rpm : 2.00 455 Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.50

SET IDLE AUXILIARY SPRING

Rated speed rpm : 455 rack travel mm : 2.00

TORQUE CONTROL

Rated speed rpm : 1400 rack travel mm : 10.55 Tolerance mm : + 0.05

Rated speed rpm : 500 rack travel mm : 10.60 Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa Rated speed rpm : 400

Del. quantity cm3/1000 strokes : 51.0 cm3/1000 strokes : \leftarrow 2.0 Check tolerance cm3/1000s. : +- 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 16.20 Tolerance mm : + 0.20 Del. quantity

cm3/1000 strokes : 83.0 cm3/1000 strokes : +- 5.0 Check tolerance

cm3/1000s. : +- 8.0

LOW IDLE

Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 12.0 cm3/1000 strokes : +- 2.0 Check tolerance : +- 4.5 cm3/1000s. Spreed cm3/1000 strokes : 5.5 Check tolerance cm3/1000s. : 9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcará(s) W400/...

Edition Test oil

: 25.11.96 : ISO 4113

Combination No. : 0 400 876 430

Injection pump

Pump designation : PES6A95D41ORS2864 EP type number : 0 410 896 888

Governor

Governer design. : RSV400...1050A0C2263

: -10L

Governer no.

: 0 420 232 619

Cust. part No. : 87 800 862

Customer-spec. information

Customer : FNH-GEOTECH

: P 396 Motor : 142.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 1.3

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 : + 1.5 bar Tolerance bar

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

: 2.60 : +- 0.05 Prestroke mm Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 15.20 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 154.0

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +- 3.0

Spreed

cm3/1000 strokes : 3.5

H11

Check tolerance	1
cm3/1000s. : 8.0	ASSEMBLY GOVERNOR SETTING
Rated speed rpm : 450	Rated speed rpm : 1093 rack travel mm : 12.40
Rack travel in mm: 5.60 Tolerance mm: +- 0.10 Del. quantity cm3/1000 strokes: 15.0	Rated speed rpm : 1158 Tolerance 1/min : - 5 rack travel mm : 4.00
cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.5	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1270
Spreed cm3/1000 strokes : 5.5 Check tolerance cm3/1000s. : 9.0	Rated speed rpm : 1094 rack travel mm : 12.40
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 1159 Tolerance 1/min : + 5 rack travel mm : 4.00
GUIDE SLEEVE POSITION	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1270
Rated speed rpm : 800	Rated speed rpm : 1095 rack travel mm : 12.40
Rack travel in mm: 0.50 Tolerance mm: + 0.20	Rated speed rpm : 1160 Tolerance 1/min : +- 5 rack travel mm : 4.00
governor spring pre-tension click setting x : 4.00	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1270
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 1096 rack travel mm : 12.40
Rated speed rpm : 750 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 154.0	Rated speed rpm : 1161 Tolerance 1/min : + 5 rack travel mm : 4.00
cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1270
cm3/1000 strokes : 3.5 Check tolerance	Rated speed rpm : 1097 rack travel mm : 12.40
	Rated speed rpm : 1162 Tolerance 1/min : + 5 rack travel mm : 4.00
control lever position degree : 97.0	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1270
tolerance degree : +- 4.0	Rated speed rpm : 1098 rack travel mm : 12.40

Rated speed rpm	: 1163
Tolerance 1/min	: + 5
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1270
LOW IDLE	
control lever position degree tolerance degree	: 75.0 : + 4.0
Setting point w/or	ut bumper spring
Rated speed rpm rack travel mm	
Testing:	
Rated speed rpm	: 450
rack travel mm	: 5.60
Tolerance mm	: + 0.10
rack travel mm	: 2.00
Rated speed rpm	: 575
Tolerance 1/min	: + 30
TORQUE CONTROL	
Rated speed rpm	: 750
rack travel mm	: 15.20
Tolerance mm	: + 0.05
Rated speed rpm	: 500
rack travel mm	: 15.25
Tolerance mm	: ← 0.10
Rated speed rpm	: 1050
rack travel mm	: 12.90
Tolerance mm	: ← 0.05
Rated speed rpm	: 1050
rack travel mm	: 13.40
Tolerance mm	: + 0.10
Rated speed rpm	: 950
rack travel mm	: 14.25
Tolerance mm	: +- 0.10

251111/10		
Rated speed rpm	:	500
Pressure hPa	:	1200
rack travel mm	:	15.25
Tolerance mm	• -	- 0.10

MEASUREMENT

Pressure hPa	:	_
Rated speed rpm	:	500
rack travel mm	:	9.20
Tolerance mm	: +	- 0.05
torelative initi		- 0.0.

Rated	speed	rpm	:	500
rateu	speed	i biii	•	200

Pressure hPa	:	750
rack travel mm	•	13.70
Tolerance mm	: +	─ 0.05

Pressure hPa	:		500
rack travel mm	:	•	11.80
Tolerance mm	:	+-	0.20

FUEL DELIVERY CHARACTERISTICS

hPa	:	_
Rated speed rpm	:	500
Del guantity		

cm3/1000 strokes	:		76.5
cm3/1000 strokes	:	+-	1.0
Check tolerance			

cm3/1000s. : +- 3.0

STARTING FUEL DELIVERY

Rated speed rpm	:		100
rack travel mm	:		20.00
Tolerance mm	:	+-	0.20
Del. quantity			
cm3/1000 strokes	:		163.0
cm3/1000 strokes	:	+-	8.0
Check tolerance			
cm3/1000s.	:	+-	11.0

LOW IDLE

Rated speed rpm	:	450
Del. quantity		
cm3/1000 strokes	•	15.0

cm3/1000 strokes	: +-	2.0
Check tolerance cm3/1000s.	: +-	4.5
Spreed cm3/1000 strokes	:	5.5
Check tolerance cm3/1000s.	:	9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 21.11.96 Test oil : ISO 4113

Combination No. : 0 402 036 762

Injection pump

Pump designation : PES6P110A120RS3353 EP type number : 0 412 016 752

Governor

Governer design. : RQV450...1100PA1233

: -1K

: 0 421 815 479 Governer no.

Cust. part No. : 3926776

Customer-spec. information Customer : CDC : 6CTA Motor Power KW : 194.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C : +-2.0

Overflow valve : 2 417 413 093

Inlet press. bar : Tolerance bar $: \leftarrow 0.1$

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

208.5 bar : + 1.5 Tolerance bar

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

17.0 Test pressure bar : : ← 1.0 Tolerance bar

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

Start of delivery blocking

°NW after s.o.d. : 8.00 : +- 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Barrel no. : 1

Beginning of delivery differende

and maximum rack

13.00 travel Difference * CS : 1.20

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 13.15 Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 206.5

	Dol guardida
cm3/1000 strokes : + 1.0	Del. quantity cm3/1000 strokes : 206.5
the root strokes . The	cm3/1000 strokes : +- 1.0
Check tolerance	Check tolerance
cm3/1000s. : +- 4.0	cm3/1000s. : +- 4.0
+	Spreed
Spreed	cm3/1000 strokes : 8.0
cm3/1000 strokes : 8.0	Check tolerance
+	cm3/1000s. : 12.0
Check tolerance	
cm3/1000s. : 12.0	
Rated speed rpm : 500	CONTROL LEVER
Mateu Speed (pm : 300	CONTROL LLVER
1	control lever
Rack travel in mm: 5.90	position degree : 117.0
Tolerance mm : + 0.20	tolerance degree : + 6.0
Del. quantity	-
cm3/1000 strokes : 21.5	RATED SPEED
cm3/1000 strokes : + 3.0 +	
Check tolerance	rack travel mm : 11.45
cm3/1000s. : + 5.0 +	Rated speed rpm : 1160
Spreed + cm3/1000 strokes : 4.0 +	Tolerance 1/min : +- 15
Check tolerance	rack travel mm : 6.45
cm3/1000s. : 8.0	Rated speed rpm : 1230
1.0000	Tolerance 1/min : + 5
1	
(B) SETTING OF INJECTION PUMP	rack travel mm : 0.50
WITH GOVERNOR +	Tolerance mm : + 0.50
+	Rated speed rpm : 1300
+	
GUIDE SLEEVE TRAVEL	
Data damanda ana 500	LOW TOUR
Rated speed rpm : 500	LOW IDLE
guide sleeve + 1.82 +	
Tolerance mm : + 0.25	control lever
	position degree : 79.0
Rated speed rpm : 1214	tolerance degree : +- 6.0
guide sleeve	
travel mm : 8.09 +	Testing:
Tolerance mm : +- 0.15	
t	Rated speed rpm : 500
Rated speed rpm : 890	rack travel mm : 5.90 Tolerance mm : + 0.20
guide sleeve	loterance mm : + U.2U
travel mm : 4.75 + O.25 +	Rated speed rpm : 400
Toterance in . + 0.25	rated speed (pill . 400
Rated speed rpm : 1570	CRT mm min. : > 7.50
guide sleeve travel mm : 13.50	Rated speed rpm : 500
Tolerance mm : + 0.50	·
+	
	TORQUE CONTROL
FULL LOAD DELIVERY AT FULL LOAD STOP	2000
1000	Rated speed rpm : 1000
Rated speed rpm : 1000	rack travel mm : 13.15 Tolerance mm : + 0.05
Aneroid pressure + hPa : 1200 +	Toterance mm : TO 0.05
hPa : 1200 +	

Rated speed rpm rack travel mm Tolerance mm	: 750 : 12.55 : + 0.20	+ Check tolerance - cm3/1000s. : 12.0 - Aneroid pressure
Rated speed rpm rack travel mm Tolerance mm	: 1100 : 12.60 : ← 0.10	hPa : 1200 Rated speed rpm : 1100 Del. quantity cm3/1000 strokes : 190.5
ANEROID/ALTITUDE COMPENSATOR TEST		- cm3/1000 strokes : +- 2.0 - Check tolerance - cm3/1000s. : +- 5.0
SETTING		+ Aneroid pressure + hPa : - Rated speed rpm : 1000
Rated speed rpm Pressure hPa	: 1000 : 1200	<pre>Del. quantity</pre>
MEASUREMENT		Check tolerance cm3/1000s. : +- 4.0
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	1000 10.15 + 0.20	BREAKAWAY
Rated speed rpm	: 1000	Rack travel in mm : 11.45 Rated speed rpm : 1160
Pressure hPa rack travel mm Tolerance mm	: 720 : 12.20 : + 0.30	Tolerance 1/min : + 15
Pressure hPa rack travel mm Tolerance mm	: 580 : 11.20 : + 0.20	STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 21.00 Tolerance mm : + 0.50
START CUT-OUT		+ Del. quantity + cm3/1000 strokes : 161.0
Rated speed rpm Rated speed rpm		cm3/1000 strokes : + 20.0 + Check tolerance + cm3/1000s. : + 25.0
Check speed 1/min Check	: > 80	† +
speed 1/min	: < 390	LOW IDLE
FUEL DELIVERY CHA	RACTERISTICS	+ Rated speed rpm : 500 + Del. quantity
Aneroid pressure hPa Rated speed rpm	: 1200 : 750	cm3/1000 strokes : 21.5 cm3/1000 strokes : +- 3.0 Check tolerance
Del. quantity cm3/1000 strokes		cm3/1000s. : + 5.0 + Spreed
cm3/1000 strokes Check tolerance		+ cm3/1000 strokes : 4.0 + Check tolerance
cm3/1000s. Spreed cm3/1000 strokes	: + 6.0 : 8.0	- cm3/1000s. : 8.0
		•

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.11.96 Test oil : ISO 4113

Combination No. : 0 402 746 621

Injection pump

Pump designation : PES6P120A720RS7424 EP type number : 0 412 726 964

Governor

Governer design. : RQV325...875PA944

: -24K

Governer no. : 0 421 815 535

Cust. part No. : 313GC5223-P14

Customer—spec. information
Customer : MACK
Motor : EM7-300
Power KW : 224.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 413 359 008

Inlet press. bar : 2.8
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 3.30
Tolerance mm : + 0.05
Check

tolerance mm : + 0.10

Rack travel in mm : 12.00 Tolerance mm : + 1.00

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.30

Check

tolerance *NW : + 0.75

Start of delivery blocking

Tolerance : \leftarrow 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 875

Rack travel in mm: 14.10

Tolerance mm : \leftarrow 0.05

Del. quantity cm3/1000 strokes	: 312.0	
cm3/1000 strokes	<u> </u>	FULL LOAD DELIVERY AT FULL LOAD STOP
	; 	Rated speed rpm : 875
Check tolerance cm3/1000s.	: ← 4.0	Aneroid pressure hPa : 1200 Del. quantity
Spreed cm3/1000 strokes	: 5.0	cm3/1000 strokes : 312.0 cm3/1000 strokes : +- 1.0 Check tolerance
Check tolerance cm3/1000s.	: 9.0	cm3/1000s. : +- 4.0 Spreed cm3/1000 strokes : 5.0
Rated speed rpm	: 340	Check tolerance cm3/1000s. : 9.0
Rack travel in mm	i: 5.10	
Tolerance mm	: + 0.10	CONTROL LEVED
Del. quantity cm3/1000 strokes	: 40.0	CONTROL LEVER
cm3/1000 strokes		control lever
Check tolerance cm3/1000s.	: + 5.0	position degree : 103.0 tolerance degree : +- 4.0
Spreed	<u></u>	toterance degree . 4- 4.0
cm3/1000 strokes Check tolerance	: 8.0	RATED SPEED
cm3/1000s.	: 12.0	rack travel mm : 13.00 Rated speed rpm : 930
(B) SETTING OF IN	JECTION PUMP +	Tolerance 1/min : + 5
WITH GOVERNOR	-	rack travel mm : 4.00 Rated speed rpm : 1115
		Tolerance 1/min : + 15
GUIDE SLEEVE TRAV	EL +	and the self and a C 50
Rated speed rpm guide sleeve	+	rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1210
travel mm Tolerance mm	: 1.92 : + 0.20	
	+	LOU TO S
Rated speed rpm guide sleeve	: 939	LOW IDLE
travel mm	: 7.51	
Tolerance mm	: + 0.15	control lever position degree : 65.0
Rated speed rpm guide sleeve	: 726	tolerance degree : +- 4.0
travel mm Tolerance mm	: 5.63 : + 0.25	Testing:
Rated speed rpm	: 510	Rated speed rpm : 340 rack travel mm : 5.10
guide sleeve	· 310	Tolerance mm : +- 0.10
travel mm Tolerance mm	: 3.81 : + 0.25	Rated speed rpm : 275
Rated speed rpm	: 1370	CRT mm min. : > 6.06
guide sleeve travel mm Tolerance mm	: 13.50 : + 0.50	Rated speed rpm : 425

		4
TORQUE CONTROL		Aneroid pressure hPa : 1200
Rated speed rpm rack travel mm Tolerance mm	: 875 : 14.10 : + 0.05	Rated speed rpm : 510 Del. quantity cm3/1000 strokes : 402.0 cm3/1000 strokes : + 3.0
Rated speed rpm rack travel mm Tolerance mm	: 14.85	- Check tolerance - cm3/1000s. : +- 6.0 - Spreed - cm3/1000 strokes : 8.0
Rated speed rpm rack travel mm Tolerance mm		Check tolerance cm3/1000s. : 12.0 Aneroid pressure
Rated speed rpm rack travel mm Tolerance mm	: 14.25 : + 0.20	hPa : - Rated speed rpm : 400 Del. quantity cm3/1000 strokes : 187.5 cm3/1000 strokes : + 2.0 Checkerance
ANEROID/ALTITUDE COMPENSATOR TEST		cm3/1000s. : + 4.0
SETTING		+ BREAKAWAY
Rated speed rpm Pressure hPa	: 510 : 1200	Rack travel in mm: 13.00 Rated speed rpm: 930 Tolerance 1/min: + 5
MEASUREMENT		1
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 510 : 9.20 : + 0.20	STARTING FUEL DELIVERY Rated speed rpm : 100
Rated speed rpm	: 510	rack travel mm : 21.00 Tolerance mm : + 0.50 Del. quantity
Pressure hPa rack travel mm Tolerance mm	: 740 : 13.20 : ← 0.20	cm3/1000 strokes : 190.0 cm3/1000 strokes : + 20.0 Check tolerance cm3/1000s. : + 30.0
Pressure hPa rack travel mm Tolerance mm	: 400 : 10.60 : ← 0.05	
START CUT-OUT		+ LOW IDLE
Rated speed rpm Rated speed rpm		Rated speed rpm : 340 Del. quantity cm3/1000 strokes : 40.0 cm3/1000 strokes : +- 3.0
Check speed 1/min Check	: > 80	+ Check tolerance + cm3/1000s. : +- 5.0 + Spreed
speed 1/min	: < 255	cm3/1000 strokes : 8.0 + Check tolerance
FUEL DELIVERY CHA	ARACTERISTICS	— + cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.11.96 Test oil : ISO 4113

Combination No. : 0 401 496 003

Injection pump

Pump designation : PE6R120/720RS1504 EP type number : 0 411 426 003

Governor

Governer design. : RE31

Governer no. : 0 421 890 200

Cust. part No. : 1556415

: -P10v20.11.96

Customer-spec. information

Customer : VOLVO-TRUCK

Motor : TD 164 Power KW : 382.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x Length mm : 600

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS No basic setting. Setting of constant delivery

under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.45
Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.30

Check

tolerance *NW : +- 0.75

Start of delivery mark

Barrel no. : 1

(B) POSITIONER TESTING Warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 V
TESTING & SETTING RACK TRAVEL SENSOR POSITION
Engine speed min-1: 0
Setting point (P, R and H pump)
Uact V : 3.100 CRT mm : 13.00 Tolerance mm : +/- 0.05 Check tolerance mm : +/- 0.10
Check value (P, R and H pump)
Uact V : 1.700 CRT mm : 6.15 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30
Setting point (M pump)
Uact V : 3.100 CRT mm : 12.50 Tolerance mm : +/- 0.05 Check tolerance mm : +/- 0.10
Check value (M pump)
Uact V : 1.700 CRT mm : 5.50 Tolerance mm : +/- 0.25 Check
tolerance mm : +/- 0.30
Stop position
Uact V: Value with deenergised adjusting magnet and control rod in stop position.
CRT mm : 0.75 Tolerance mm : +/- 0.25
Check tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR (All P and R pumps not H and M pumps) Test with control rod in stop position Engine speed min-1: 60 Amplitude V: 1.4 Tolerance V : +/- 0.6 Check tolerance V : +/- 1.20 Engine speed min-1: 600 Difference Amolitude to Amplitude V : max.1.4 (C) INJECTION PUMP WITH POSITIONER TEST POINT V1 Rated speed rpm : 525 Uact V : 2.95 2.950 Del. quantity cm3/1000 strokes : 390.0 cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 10.0 FUEL DELIVERY CHARACTERISTICS Rated speed rpm : Uact V 3.240 Del. quantity cm3/1000 strokes : 386.0 cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed cm3/1000 strokes : 9.0 Check tolerance : 13.0 cm3/1000s. Rated speed rpm : 900 Uact V 2.000 Del. quantity cm3/1000 strokes : 163.0 cm3/1000 strokes : +- 3.0

Check tolerance cm3/1000s.

: +- 6.0

TEST POINT L1

Rated speed rpm	:	265
Rated speed rpm	:	265
Uact V	:	1.630
Uact V	:	1.630
Tolerance Volt		0.060
Check tolerance		
Volt	: +	0.060
Del. quantity		
cm3/1000 strokes	:	19.0
Del. quantity		
cm3/1000 strokes	:	20.0
cm3/1000 strokes	: +-	3.0
cm3/1000 strokes	: +-	3.0
Spreed		
cm3/1000 strokes	:	7.0
cm3/1000 strokes	:	7.0
Check tolerance		
cm3/1000S.	:	11.0
Check tolerance		
cm3/1000S.	:	11.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 26.11.96 Edition Test oil : 180 4113

Combination No. : 0 402 046 875

Injection pump

Pump designation : PES6P110A320RS3329Z

EP type number : 0 412 016 744

Governor

Governer design. : RQV325...1250PA1251

Governer no. : 0 421 814 164

Cust. part No. : 1309376/0

Customer-spec. information Customer : DAF : NS156M Motor Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C : + 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5 Tolerance bar : +- 0.1

Overflow quantity

min. l/h : 160 Tolerance l/h : +- 20.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0

x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm : 20.50Tolerance mm : $\leftarrow 0.50$

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance : \leftarrow 0.30

Check

tolerance $^{\circ}NW$: \leftarrow 0.50

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.85

Tolerance mm : +- 0.05

		† Tolerance mm	: +- 0.50
Del. quantity cm3/1000 strokes	: 144.0	# GUIDE SLEEVE PO	TTTON
cm3/1000 strokes	: + 1.0	Rated speed rpm	
Check tolerance cm3/1000s.	: + 4.0	Rack travel in r	nm: 10.85
Spreed cm3/1000 strokes	: 4.0	FULL LOAD DELIVE	TOV AT EUL LO
Check tolerance cm3/1000s.	: 7.5	Rated speed rpm	: 1000
Rated speed rpm	: 325	+ Aneroid pressure + hPa + Del. quantity	: 1500
Rack travel in mm		+ cm3/1000 strokes + cm3/1000 strokes	s: 144.0 s:+- 1.0
Tolerance mm Del. quantity cm3/1000 strokes	: ← 0.10 : 26.0	+ Check tolerance + cm3/1000S. + Spreed	
cm3/1000 strokes Check tolerance	: +- 2.5	cm3/1000 strokes Check tolerance	
cm3/1000s. Spreed cm3/1000 strokes	: ← 5.0 : 12.0	+ cm3/1000s.	: 7.5
Check tolerance cm3/1000s.	: 15.0	CONTROL LEVER	
(B) SETTING OF IN WITH GOVERNOR	NECTION PUMP	control lever position degree tolerance degree RATED SPEED	
GUIDE SLEEVE TRAV	/EL	rack travel mm	: 10.85
Rated speed rpm guide sleeve	: 325 : 1.25	Rated speed rpm Tolerance 1/min	
travel mm Tolerance mm	: +- 0.20	rack travel mm Rated speed rpm	
Rated speed rpm guide sleeve travel mm	: 1298 : 10,25	Tolerance 1/min rack travel mm	: ← 15 : 0.50
Tolerance mm	: +- 0.15	Tolerance mm Rated speed rpm	: +- 0.50
Rated speed rpm guide sleeve travel mm	: 863 : 5.41	<u> </u>	
Tolerance mm	: ← 0.25	LOW IDLE	
Rated speed rpm guide sleeve travel mm Tolerance mm	: 520 : 3.02 : +- 0.25	control lever position degree tolerance degree	
Rated speed rpm	: 1510	† Testing:	
guide sleeve travel mm	: 13.50	Rated speed rpm	: 325

TOTAL THE TIRM	0.30
GUIDE SLEEVE POSI	TION
Rated speed rpm	: 1370
Rack travel in mm Tolerance mm	: 10.85 : +- 1.30
FULL LOAD DELIVER	Y AT FULL LOAD STOP
Rated speed rpm Aneroid pressure hPa Del. quantity	: 1000 : 1500
cm3/1000 strokes cm3/1000 strokes Check tolerance	: +- 1.0
cm3/1000s. Spreed cm3/1000 strokes	: + 4.0 : 4.0
Check tolerance cm3/1000s.	: 7.5
CONTROL LEVER	
control lever position degree tolerance degree	
RATED SPEED	
rack travel mm Rated speed rpm Tolerance 1/min	: 10.85 : 1300 : + 5
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1375 : ← 15
rack travel mm Tolerance mm Rated speed rpm	: 0.50 : + 0.50 : 1500
LOW IDLE	
control lever position degree tolerance degree	: 76.0 : + 4.0
Testing:	
Rated speed rpm	: 325

rack travel mm : 4.50 : +- 0.10 Tolerance mm Rated speed rpm : 225 CRT mm min. :> 6.00Rated speed rpm 375 : TORQUE CONTROL Rated speed rpm : 1000 rack travel mm : 11.85 : +- 0.05 Tolerance mm Rated speed rpm : 700 rack travel mm : 11.85 Tolerance mm : **←** 0.10 Rated speed rpm : 1250 rack travel mm : 11.85 Tolerance mm : +- 0.10 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 600 Pressure hPa : 1500 rack travel mm : 11.85 Tolerance mm : + 0.05 MEASUREMENT Pressure hPa Rated speed rpm 600 rack travel mm 7.35 Tolerance mm : +- 0.20 Rated speed rpm : 600 Pressure hPa 370 rack travel mm 10.75 : +- 0.05 Tolerance mm : 200 Pressure hPa rack travel mm 8.40 Tolerance mm: +- 0.10 FUEL DELIVERY CHARACTERISTICS Rated speed rpm : 700 Del. quantity $cm3/1000 \text{ strokes} : 145.0 \\ cm3/1000 \text{ strokes} : + 3.0$ Check tolerance cm3/1000s. : +- 6.0 Aneroid pressure Rated speed rpm : 1000 Del. quantity cm3/1000 strokes : 94.0 cm3/1000 strokes : +- 1.0Check tolerance cm3/1000s. : +- 3.5 BREAKAWAY Rack travel in mm : 10.85 Rated speed rpm : 1300 Tolerance 1/min : + 5 LOW IDLE Rated speed rpm : 325 Del. quantity cm3/1000 strokes : 26.0 cm3/1000 strokes : +-2.5 Check tolerance cm3/1000s. : +-5.0

End of test specification sheet

:

12.0

15.0

cm3/1000 strokes :

Check tolerance cm3/1000s.

Spreed

Aneroid pressure

hPa : 1500

H28

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 25.11.96 Test oil : ISO 4113

Combination No. : 0 402 076 748G

Injection pump

Pump designation : PES6P110A720RS3305

: -1

EP type number : 0 412 016 742

Governor

Governer design. : RSV300...1100P1A555

Governer no. : 0 421 833 379

Cust. part No. : 9271056

Customer—spec. information
Customer : LIEBHERR
Motor : D 926 TI
Power KW : 218.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 049

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity

min. l/h : 130 Tolerance l/h : +- 10.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 207.5 Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.20 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance $^{\circ}NW$: + 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 12.30 Tolerance mm : + 0.05

J01

: 181.0
: + 1.0
: + 3.5
: 4.0
: 7.5
: 400
: 4.40 : + 0.10
: 30.0 : + 3.0
: +- 5.5
: 4.5 : 7.5
Y AT FULL LOAD STOP
: 900 : 1150
: 181.0 : + 1.0
: ← 3.5
: 4.0
: 7.5
•

rack travel mm : 10.85 Rated speed rpm : 925 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 980 Tolerance 1/min : +- 15 rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1260	
Rated speed rpm : 980 Tolerance 1/min : + 15 rack travel mm : 0.85 Tolerance mm : + 0.55	
Tolerance mm : +- 0.55	
rack travel mm : 4.00 Rated speed rpm : 995	
LOW IDLE	
control lever position degree : 75.0 tolerance degree : + 4.0	
Setting point w/out bumper spring	
Rated speed rpm : 500 rack travel mm : 3.90	
Testing:	
Rated speed rpm : 500 rack travel mm : 4.40 Tolerance mm : +- 0.10	
TORQUE CONTROL	
Rated speed rpm : 900 rack travel mm : 12.30 Tolerance mm : +- 0.05	
Rated speed rpm : 500 rack travel mm : 12.30 Tolerance mm : + 0.10	
Rated speed rpm : 700 rack travel mm : 12.30 Tolerance mm : + 0.10	
Rated speed rpm : 450 rack travel mm : 13.70 Tolerance mm : +- 0.10	
ANEROID/ALTITUDE COMPENSATOR TEST	

Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 550 : 1150 : 12.30 : + 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 550 : 9.45 : + 0.10
Rated speed rpm	: 550
Pressure hPa rack travel mm Tolerance mm	: 800 : 11.80 : ← 0.05
Pressure hPa rack travel mm Tolerance mm	: 670 : 10.35 : ← 0.10
FUEL DELIVERY CHA	PACTERISTICS
LOSE DEFINER CUM	MAGI EN1201200
Aneroid pressure	
Aneroid pressure hPa Rated speed rpm	: 1150 : 500
Aneroid pressure hPa	: 1150 : 500
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: 1150 : 500 : 203.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm	: 1150 : 500 : 203.0 : + 2.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: 1150 : 500 : 203.0 : + 2.0 : + 5.0 : 1150
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity	: 1150 : 500 : 203.0 : + 2.0 : + 5.0 : 1150 : 700 : 196.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure	: 1150 : 500 : 203.0 : + 2.0 : + 5.0 : 150 : 700 : 196.0 : + 2.0 : + 5.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Rated speed rpm	: 1150 : 500 : 203.0 : + 2.0 : + 5.0 : 1150 : 700 : 196.0 : + 2.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000s.	: 1150 : 500 : 203.0 : + 2.0 : + 5.0 : 150 : 700 : 196.0 : + 2.0 : + 5.0 : + 5.0 : - 5.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity	: 1150 : 500 : 203.0 : + 2.0 : + 5.0 : 150 : 700 : 196.0 : + 2.0 : + 5.0 : - 5.0

Rated speed rpm Tolerance 1/min	: 925 : +- 5	

Rated speed rpm rack travel mm	: 100 : 20.50
Tolerance mm	: +- 0.50
Del. quantity	4.5.5
cm3/1000 strokes	: 145.0
cm3/1000 strokes	: +- 10.0
Check tolerance	
cm3/1000s.	: +- 14.0

LOW IDLE

Rated speed rpm Del. quantity	:	400	
cm3/1000 strokes cm3/1000 strokes	: : +-	30.0 3.0	
Check tolerance cm3/1000s.	: +-	5.5	
Spreed cm3/1000 strokes Check tolerance	:	4.5	
cm3/1000s.	:	7.5	

End of test specification sheet

BREAKAWAY

Rack travel in mm : 10.85

J03

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22.11.96 Test oil : ISO 4113

Combination No. : 0 402 648 784

Injection pump

Pump designation : PE8P12OA32OLS7845 EP type number : 0 412 628 861

Governor

Governer design. : RQV350...1050PA1324

Governer no. : 0 421 814 187

Cust. part No. : 0280740202

Customer-spec. information
Customer : MB-NFZ
Motor : 0M402 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Overflow quantity

min. L/h : 100 Tolerance L/h : +- 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.55Tolerance mm : $\leftarrow 0.05$ Check
tolerance mm : $\leftarrow 0.10$

Rack travel in mm : 20.50

Tolerance mm : + 0.50

Firing order : 8-7-2-6-3 :-5-4-1

Phasing : 0-45-90-135-180 : -225-270-315

Tolerance : \leftarrow 0.30

Check

tolerance $^{\circ}NW$: +- 0.50

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance *NW : +- 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm Tolerance mm	: 13.80 : + 0.05
Del. quantity cm3/1000 strokes	: 208.0
cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000s.	: +- 4.0
Spreed cm3/1000 strokes	: 6.0
Check tolerance cm3/1000S.	: 9.0
Rated speed rpm	: 350
Rack travel in mm Tolerance mm Del. quantity	: 4.40 : + 0.10
cm3/1000 strokes cm3/1000 strokes Check tolerance	: 13.0 : + 3.0
cm3/1000s.	: +- 6.0
Spreed cm3/1000 strokes	: 6.0
Check tolerance cm3/1000s.	: 10.0
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP
GUIDE SLEEVE TRAV	FI
	L
Rated speed rpm	: 350
Rated speed rpm guide sleeve travel mm Tolerance mm	750
guide sleeve travel mm Tolerance mm Rated speed rpm	: 350
guide sleeve travel mm Tolerance mm	: 350 : 2.02 : + 0.20
guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm	: 350 : 2.02 : ← 0.20 : 1107 : 8.18
guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 350 : 2.02 : + 0.20 : 1107 : 8.18 : + 0.15
guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: 350 : 2.02 : + 0.20 : 1107 : 8.18 : + 0.15 : 890 : 5.70

Rated speed rpm guide sleeve	: 1197
travel mm Tolerance mm	: 10.00 : +- 0.25
Rated speed rpm guide sleeve	: 1290
travel mm Tolerance mm	: 11.50 : + 0.50
GUIDE SLEEVE POSI	TION
Rated speed rpm	: 1154
Rack travel in mm Tolerance mm	: 12.90 : + 1.30
FULL LOAD DELIVERY	Y AT FULL LOAD STOP
Rated speed rpm Aneroid pressure	: 1050
hPa Del. quantity	: 1200
cm3/1000 strokes cm3/1000 strokes	: 208.0 : + 1.0
Check tolerance cm3/1000s.	: +- 4.0
Spreed cm3/1000 strokes	: 6.0
Check tolerance cm3/1000s.	: 9.0
CONTROL LEVER	
control lever position degree tolerance degree	: 119.0 : + 4.0
RATED SPEED	
rack travel mm Rated speed rpm Tolerance 1/min	: 12.80 : 1095 :
rack travel mm Rated speed rpm	: 4.00 : 1185
Tolerance 1/min	: + 15
rack travel mm Tolerance mm Rated speed rpm	: 0.75 : ← 0.75 : 1350
LOW IDLE	

	+	
control lever	1	Check
position degree	: 68.0	speed 1/min :> 80
tolerance degree	: +- 4.0	Check
toto, divide deg. co	1	speed 1/min : < 280
Testing:	1	5,000 // 11111
	1	
Rated speed rpm	: 350	FUEL DELIVERY CHARACTERISTICS
rack travel mm	: 4.40	
rack travel mm Tolerance mm	: + 0.10 +	Aneroid pressure
	+	hPa : 1200
Rated speed rpm	: 250 +	Rated speed rpm : 700
	+	Del. quantity
CRT mam min.	: > 7.56 +	cm3/1000 strokes : 234.0
	+	cm3/1000 strokes : +- 2.0
Rated speed rpm	: 415 +	Check tolerance cm3/1000s. : +- 5.0
	+	cm3/1000s. : +- 5.0
	+	Spreed
TORQUE CONTROL	+	cm3/1000 strokes : 8.0
	+	Check tolerance
Rated speed rpm	: 1050	cm3/1000s. : 12.0
rack travel mm Tolerance mm	: 13.80	A
Tolerance mm	: ← 0.05	Aneroid pressure
	. 700	hPa : 1200
Rated speed rpm	1/30	Rated speed rpm : 1050
rack travel mm Tolerance mm	14.50	Del. quantity cm3/1000 strokes : 156.0
roterance mm	: + 0.05	cm3/1000 strokes : + 2.0
Batad speed nom	· 1050	
Rated speed rpm	: 11.60	Check tolerance cm3/1000s. : + 5.0
rack travel mm Tolerance mm	: + 0.15	CIIIS7 (0003:
Totel diffe inti	1	Aneroid pressure
		hPa : -
ANEROID/ALTITUDE	1	Rated speed rpm : 500
COMPENSATOR TEST	1	Del. quantity
	1	Del. quantity cm3/1000 strokes : 135.0
	+	cm3/1000 strokes : + 1.0
SETTING	 	Check tolerance
	-	cm3/1000s. : +- 4.0
Rated speed rpm	: 500	Spreed
Pressure hPa	: - +	cm3/1000 strokes : 8.0
	+	Check tolerance
MEASUREMENT	+	cm3/1000s. : 12.0
	+	
Pressure hPa	: 350 +	
· · · · · · · · · · · · · · · · · ·	500	
Rated speed rpm		BREAKAWAY
rack travel mm	: 0.65	BREAKAWAY
rack travel mm Tolerance mm	: 0.65 : + 0.05	Rack travel in mm : 12.80
rack travel mm	: 0.65	Rack travel in mm : 12.80 Rated speed rpm : 1095
rack travel mm Tolerance mm Rated speed rpm	: 0.65 : ← 0.05 : 500	Rack travel in mm : 12.80
rack travel mm Tolerance mm Rated speed rpm Pressure hPa	: 0.65 : ← 0.05 : 500 : 750	Rack travel in mm : 12.80 Rated speed rpm : 1095
rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm	: 0.65 : ← 0.05 : 500 : 750 : 2.40	Rack travel in mm : 12.80 Rated speed rpm : 1095
rack travel mm Tolerance mm Rated speed rpm Pressure hPa	: 0.65 : ← 0.05 : 500 : 750 : 2.40	Rack travel in mm : 12.80 Rated speed rpm : 1095 Tolerance 1/min : +- 5
rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm	: 0.65 : ← 0.05 : 500 : 750 : 2.40	Rack travel in mm : 12.80 Rated speed rpm : 1095
rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 0.65 : ← 0.05 : 500 : 750 : 2.40	Rack travel in mm : 12.80 Rated speed rpm : 1095 Tolerance 1/min : +- 5 STARTING FUEL DELIVERY
rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm	: 0.65 : ← 0.05 : 500 : 750 : 2.40	Rack travel in mm : 12.80 Rated speed rpm : 1095 Tolerance 1/min : + 5 STARTING FUEL DELIVERY Rated speed rpm : 100
rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 0.65 : ← 0.05 : 500 : 750 : 2.40 : ← 0.10	Rack travel in mm : 12.80 Rated speed rpm : 1095 Tolerance 1/min : + 5 STARTING FUEL DELIVERY Rated speed rpm : 100 Del. quantity
rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 0.65 : ← 0.05 : 500 : 750 : 2.40 : ← 0.10	Rack travel in mm : 12.80 Rated speed rpm : 1095 Tolerance 1/min : + 5 STARTING FUEL DELIVERY Rated speed rpm : 100

Check tolerance

cm3/1000s. : \leftarrow 14.0

LOW IDLE

Rated speed from : 350

Del. quantity

cm3/1000 strokes : 13.0 cm3/1000 strokes : + 3.0

Check tolerance

cm3/1000s. : +- 6.0

Spreed

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s. : 10.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.11.96 Test oil : ISO 4113

Combination No. : 0 402 648 981

Injection pump

Pump designation : PE8P120A320LS7839

: -10

EP type number : 0 412 628 855

Governor

Governer design. : RQ300/950PA971-10

Governer no. : 0 421 801 754

Cust. part No. : 0250749002

Customer—spec. information Customer : MB-NFZ Motor : OM442 LA Power KW : 370.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Tolerance l/h: \leftarrow 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.05 Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 14.50 Tolerance mm : + 0.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

Phasing : 0-45-90-135-180

: -225-270-315 Tolerance : + 0.30

Check

tolerance °NW : +- 0.50

Start of delivery mark

Tolerance : + 0.10

Check

tolerance *NW : +- 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm: 15.20 + Tolerance mm: + 0.05	Rated speed rpm : 580 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10
Del. quantity cm3/1000 strokes : 289.0	Rated speed rpm : 1190 guide sleeve
cm3/1000 strokes : + 1.0	travel mm : 11.50 Tolerance mm : +- 0.50
Check tolerance cm3/1000s. : + 4.0	GUIDE SLEEVE POSITION
Spreed cm3/1000 strokes : 6.0	Rated speed rpm : 600
Check tolerance cm3/1000s. : 9.0	Rack travel in mm : 20.00 Tolerance mm : + 0.80
Rated speed rpm : 300	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm: 5.20 + Tolerance mm: + D.10 + Del. quantity	Rated speed rpm : 550 Aneroid pressure hPa : 1200
cm3/1000 strokes : 19.0 + cm3/1000 strokes : + 3.0 + Check tolerance +	Del. quantity cm3/1000 strokes : 289.0 cm3/1000 strokes : +- 1.0
cm3/1000s. : ← 6.0 + 5preed + cm3/1000 strokes : 6.0 +	Check tolerance cm3/1000s. : +- 4.0 Spreed
Check tolerance cm3/1000s. : 10.0	cm3/1000 strokes : 6.0 Check tolerance
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	cm3/1000s. : 9.0 CONTROL LEVER
GUIDE SLEEVE TRAVEL	control lever
Rated speed rpm : 300 + guide sleeve	position degree : 98.0 tolerance degree : +- 4.0
travel mm : 1.72 Tolerance mm : + 0.20	RATED SPEED
Rated speed rpm : 1005 guide sleeve	rack travel mm : 14.20 Rated speed rpm : 998 Tolerance 1/min : + 5
travel mm : 6.34 Tolerance mm : + 0.15	rack travel mm : 4.00 Rated speed rpm : 1100
Rated speed rpm : 950	Tolerance 1/min : + 15
travel mm : 6.00 Tolerance mm : + 0.10	rack travel mm : 0.75 Tolerance mm : + 0.75 Rated speed rpm : 1250
Rated speed rpm : 374 guide sleeve	
travel mm : 3.81 + Tolerance mm : + 0.10 +	LOW IDLE

control lever position degree tolerance degree	: 72.0 : +- 4.0
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 300 : 5.20 : ← 0.10
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 390 : + 40
Rated speed rpm	: 200
CRT mm min.	: > 7.20
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 550 : 15.20 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 950 : 15.20 : + 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 400 : 1200 : 15.20 : + 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 400 : 8.25 : + 0.15
Rated speed rpm	: 400
Pressure hPa rack travel mm	: 300 : 9.95 : +- 0.20
Tolerance mm	0.20

START CUT-OUT		
Rated speed rpm Rated speed rpm		00 220
Check speed 1/min Check	:>	80
speed 1/min	: < 2	240
FUEL DELIVERY CHA	RACTERIST	TCS
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: 1200 : 950 : 271	.0
cm3/1000 strokes Check tolerance	: +- 3	3.0
cm3/1000s.	: +- 6	.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance cm3/1000s.	: +- 4 : 8	
Rack travel in mm Rated speed rpm Tolerance 1/min	: 998	
STARTING FUEL DEL	IVERY	
Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: 100 : 255 : + 20 : + 24	.0
LOW IDLE		

Rated speed rpm Del. quantity	:	300
cm3/1000 strokes	:	19.0
cm3/1000 strokes	: •	⊢ 3.0
Check tolerance		
cm3/1000s.	: -	⊢ 6.0
Spreed		
cm3/1000 strokes	:	6.0
Check tolerance		
cm3/1000s.	:	10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 22,11.96 Edition Test oil : ISO 4113

Combination No. : 0 402 746 609A

Injection pump

Pump designation : PES6P130A720RS7411 EP type number : 0 412 736 808

Governor

Governer design. : RQ275/950PA1274 Governer no. : 0 421 801 807

Cust. part No. : 221 574

Customer-spec. information

Customer : RABA : SIEHE BEMERKUNG : 190.0 Motor

Power KW

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Overflow quantity

min. l/h : 160
Tolerance l/h : +- 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 5.50
Tolerance mm : +- 0.05 Check

tolerance mm : +- 0.10

Rack travel in mm : 20.50 Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240 : -300

Tolerance : +- 0.30

Check

tolerance *NW : +- 0.50

Start of delivery mark

Tolerance : + 0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 12.60 Tolerance mm : + 0.05

	+ Tolerance mm : +- 0.10	
Del. quantity cm3/1000 strokes : 24	46.0 + Rated speed rpm : 1290	
cm3/1000 strokes : +-	guide sleeve 1.0 + travel mm : 11.50	
Check tolerance		
cm3/1000s. : +-	4.0 + GUIDE SLEEVE POSITION	
Spreed cm3/1000 strokes :	5.0 Rated speed rpm : 1147	
Check tolerance cm3/1000S. :	9.0 Rack travel in mm : 11.60 Tolerance mm : +- 1.30	
Rated speed rpm : 27	75 ————————————————————————————————————	AD STOP
Rack travel in mm : 4 Tolerance mm : + 0 Del. quantity cm3/1000 strokes : 24		
cm3/1000 strokes : +- : Check tolerance cm: 1000s. : +- :	3.0 + cm3/1000 strokes : 246.0 + cm3/1000 strokes : + 1.0	
Spreed cm3/1000 strokes :	+ cm3/1000s. : + 4.0 8.0 + Spreed	
Check tolerance cm3/1000s. : 13	cm3/1000 strokes : 5.0 12.0 + Check tolerance - cm3/1000s. : 9.0	
(B) SETTING OF INJECTION F	PUMP	
GUIDE SLEEVE TRAVEL		
GUIDE SLEEVE TRAVEL Rated speed rpm : 279	control lever position degree : 33.0	
GUIDE SLEEVE TRAVEL Rated speed rpm : 279 guide sleeve travel mm : 2	control lever position degree : 33.0 tolerance degree : +- 4.0 control lever	
GUIDE SLEEVE TRAVEL Rated speed rpm : 275 guide sleeve travel mm : 2. Tolerance mm : + 0.	control lever position degree : 33.0 tolerance degree : +- 4.0 control lever position degree : 94.0 tolerance degree : +- 4.0	
GUIDE SLEEVE TRAVEL Rated speed rpm : 275 guide sleeve travel mm : 2. Tolerance mm : + 0. Rated speed rpm : 1103 guide sleeve	control lever position degree : 33.0 tolerance degree : +- 4.0 control lever position degree : 94.0 tolerance degree : +- 4.0 RATED SPEED	
GUIDE SLEEVE TRAVEL Rated speed rpm : 275 guide sleeve travel mm : 2. Tolerance mm : + 0. Rated speed rpm : 1103 guide sleeve	control lever position degree : 33.0 tolerance degree : +- 4.0 control lever position degree : 94.0 tolerance degree : +- 4.0 RATED SPEED	
GUIDE SLEEVE TRAVEL Rated speed rpm : 279 guide sleeve travel mm : 200 Tolerance mm : + 000 Rated speed rpm : 1103 guide sleeve travel mm : 600 Tolerance mm : + 000 Rated speed rpm : 1050 guide sleeve guide sleeve : 1050 guide sleeve	control lever position degree : 33.0 tolerance degree : +- 4.0 control lever position degree : 94.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 11.60 Rated speed rpm : 1095 Tolerance 1/min : +- 5	
GUIDE SLEEVE TRAVEL Rated speed rpm : 275 guide sleeve travel mm : 2. Tolerance mm : + 0. Rated speed rpm : 1103 guide sleeve travel mm : 6. Tolerance mm : + 0. Rated speed rpm : 1050	control lever position degree : 33.0 tolerance degree : +- 4.0 control lever position degree : 94.0 tolerance degree : +- 4.0 RATED SPEED RATED SPEED rack travel mm : 11.60 Rated speed rpm : 1095 Tolerance 1/min : +- 5 rack travel mm : 4.00	
GUIDE SLEEVE TRAVEL Rated speed rpm : 275 guide sleeve travel mm : 2. Tolerance mm : + 0. Rated speed rpm : 1103 guide sleeve travel mm : 6. Tolerance mm : + 0. Rated speed rpm : 1050 guide sleeve travel mm : 6. Tolerance mm : + 0. Rated speed rpm : 355 guide sleeve guide sleeve travel mm : 5.	control lever position degree : 33.0 tolerance degree : + 4.0 control lever position degree : 94.0 tolerance degree : 94.0 tolerance degree : + 4.0 RATED SPEED RATED SPEED control lever position degree : 94.0 tolerance degree : + 4.0 RATED SPEED control lever position degree : 94.0 tolerance degree : 94.0 tolerance degree : + 4.0 RATED SPEED control lever position degree : 4.0 rock travel mm : 11.60 Rated speed rpm : 1095 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1180 Tolerance 1/min : + 15 rack travel mm : 0.50	
GUIDE SLEEVE TRAVEL Rated speed rpm : 275 guide sleeve travel mm : 2. Tolerance mm : + 0. Rated speed rpm : 1103 guide sleeve travel mm : 6. Tolerance mm : + 0. Rated speed rpm : 1050 guide sleeve travel mm : 6. Tolerance mm : + 0. Rated speed rpm : 355 guide sleeve guide sleeve travel mm : 5. Rated speed rpm : 355 guide sleeve	control lever position degree : 33.0 tolerance degree : + 4.0 control lever position degree : 94.0 tolerance degree : 94.0 tolerance degree : + 4.0 RATED SPEED ALTER SPEED CONTROL Lever POSITION DEGREE : 94.0 Tolerance degree : + 4.0 Tolerance 1/min : + 5 Tolerance 1/min : + 5 Tolerance 1/min : + 15 Tolerance 1/min : + 15 Tolerance 1/min : + 15 Tolerance 1/min : + 15 Tolerance 1/min : + 15 Tolerance 1/min : + 15 Tolerance 1/min : + 15 Tolerance 1/min : + 15 Tolerance 1/min : + 15 Tolerance 1/min : + 15	
GUIDE SLEEVE TRAVEL Rated speed rpm : 275 guide sleeve travel mm : 2. Tolerance mm : + 0. Rated speed rpm : 1103 guide sleeve travel mm : 6. Tolerance mm : + 0. Rated speed rpm : 1050 guide sleeve travel mm : 6. Tolerance mm : + 0. Rated speed rpm : 355 guide sleeve travel mm : 4.	control lever position degree : 33.0 tolerance degree : + 4.0 control lever position degree : 94.0 tolerance degree : + 4.0 control lever position degree : 94.0 tolerance degree : + 4.0 control lever position degree : 94.0 tolerance degree : + 4.0 control lever position degree : 94.0 tolerance degree : + 4.0 control lever position degree : 94.0 tolerance degree : 10.50 Rated speed rpm : 11.60 Rated speed rpm : 10.95 Tolerance 1/min : + 5 control lever position degree : 4.00 position degree : 4.00 tolerance degree : 10.50 Rated speed rpm : 11.60 Rated speed rpm : 1180 Tolerance 1/min : + 15 control lever position degree : 4.00 position degree : 94.0 tolerance degree : 4.00 Rated speed rpm : 10.50 Tolerance 1/min : + 0.50 Rated speed rpm : 1200	

control lever position degree		† † †	Pressure hPa rack travel mm Tolerance mm	: 440 : 11.00 : +- 0.05
tolerance degree control lever position degree tolerance degree	: 11.0	† † † †	START CUT-OUT Rated speed rpm Rated speed rpm	
Testing: Rated speed rpm rack travel mm Tolerance mm	: 4.20	† + + + +	Check speed 1/min Check speed 1/min	: < 80 : > 215
rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min.	: + 20	+ + + + +	FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: 1500 : 1050
TORQUE CONTROL	. , , , , , ,	 ‡	cm3/1000 strokes Check tolerance cm3/1000s.	: + 3.0
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 12.60 : + 0.05 : 1050 : 12.60	+ + + + + + + + + + + + + + + + + + + +	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: 147.0
ANEROID/ALTITUDE COMPENSATOR TEST		+	BREAKAWAY	
SETTING Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1500 : 12.60	† † †	Rack travel in mam Rated speed rpm Tolerance 1/min	: 1095
MEASUREMENT	0.03	+	STARTING FUEL DEL	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 8.20 : + 0.20 : 500 : 260 : 9.20	† † † † † † †	Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: 20.50 : +- 0.50 : 110.0
		ı		

LOW IDLE

Rated speed rpm : 275
Del. quantity
cm3/1000 strokes : 24.0
cm3/1000 strokes : + 3.0
Check tolerance
cm3/1000s. : + 6.0
Spreed
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22.09.95 Test oil : ISO 4113

Combination No. : 0 402 746 957

Injection pump

Pump designation : PES6P120A720RS7292

: -1

EP type number : 0 412 726 939

Governor

Governer design. : RQV350...1150PA1074

: -2K

Governer no. : 0 421 815 367

Cust. part No. : 0250741002

Customer—spec. information
Customer : MB-NFZ
Motor : CM366LA
Power KW : 157.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 100 Tolerance l/h : + 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.00 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance *NW : + 0.75

Start of delivery blocking

*NW after s.o.d. : 3.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

4	- Rated speed rpm : 1480
Rack travel in mm : 14.40	- guide sleeve
Tolerance mm : +- 0.05 -	travel mm : 13.50
Cal management	Tolerance mm : +- 0.50
Del. quantity - cm3/1000 strokes : 280.0 -	
CHD/1000 Strokes . E00.0	GUIDE SLEEVE POSITION
cm3/1000 strokes : +- 1.0	-
	Rated speed rpm : 1331
Check tolerance	-
cm3/1000s. : +- 4.0	- Rack travel in mm : 13.50
	Tolerance mm : +- 1.30
Spreed	
cm3/1000 strokes : 8.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	L TOLL LOAD DELIVERY AT FOLL LOAD STOP
cm3/1000s. : 12.0	- Rated speed rpm : 1150
-	- Aneroid pressure
Rated speed rpm : 350	- hPa : 1500
+	Del. quantity
†	- cm3/1000 strokes : 280.0
Rack travel in mm: 6.00	- cm3/1000 strokes : + 1.0
Tolerance mm : +- 0.10 Del. quantity	- Check tolerance - cm3/1000s. : +- 4.0
cm3/1000 strokes : 13.0	- Spreed
cm3/1000 strokes : + 3.0	- cm3/1000 strokes : 8.0
Check tolerance	- Check tolerance
cm3/1000s. : +- 6.0	- cm3/1000s. : 12.0
Spreed	-
cm3/1000 strokes : 4.0	-
Check tolerance + 8.0 + 8.0	- CONTROL LEVER
. 0.0	- CONTROL ELVER
+	- control lever
(B) SETTING OF INJECTION PUMP	- position degree : 109.0
WITH GOVERNOR	- tolerance degree : +- 4.0
†	- - RATED SPEED
GUIDE SLEEVE TRAVEL	- KATEU SPEEU
GOIDE OFFICE MAYEE	- rack travel mm : 13.40
Rated speed rpm : 350	- Rated speed rpm : 1195
guide sleeve	- Tolerance 1/min : +- 5
travel mm : 1.53	-
Tolerance mm : \leftarrow 0.20	rack travel mm : 4.00
Rated speed rpm : 1206	- Rated speed rpm : 1305 - Tolerance 1/min : +- 15
Rated speed rpm : 1206 + guide sleeve +	· Oceranice Minure . The 19
travel mm : 9.35	rack travel mm : 0.70
Tolerance mm : + 0.15	- Tolerance mm : + 0.70
+	- Rated speed rpm : 1400
Rated speed rpm : 855	•
guide sleeve +	•
travel mm : 5.56	LOW TOLE
Tolerance mm : + 0.25	- LOW IDLE
Rated speed rpm : 550	•
guide sleeve	control lever
travel mm : 3.17 +	position degree : 65.0
Tolerance mm : + 0.25	tolerance degree : +- 4.0
+	•

Testing:

Rated speed rpm	:	350
rack travel mm	:	6.00
Tolerance mm	; +	- 0.10

Rated speed rpm : 250

CRT mm min. : > 6.88

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm	:	1150
rack travel mm	:	14.40
Tolerance mm	•	 0.05

Rated speed rpm	:	950
rack travel mm	:	14.25
Toterance mm	: +	- 0.10

Rated speed rpm	:	750
rack travel mm	:	13.70
Tolerance mm	: 4	─ 0.10

Rated speed rpm	:	600
rack travel mm	:	13.20
Tolerance mm	: +	- 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm	:	1150
Pressure hPa	:	1500
rack travel mm	:	14.40
Tolerance mm	:	+- 0.05

MEASUREMENT

Pressure hPa	:	-
Rated speed rpm	:	1150
rack travel mm	:	10.50
Tolerance mm	:	→ 0.15

Rated speed rpm : 1150

Pressure hPa : 1050 rack travel mm : 13.70 Tolerance mm : + 0.05

Pressure hPa : 400 rack travel mm : 11.30 Tolerance mm : ← 0.15

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O I	м	π	,	U	U	_	v	J!

Rated speed rpm Rated speed rpm		
Check speed 1/min	: > 80	
Check speed 1/min	: < 290	

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure		
hPa	:	1500
Rated speed rpm	:	750
Del. quantity		
cm3/1000 strokes	:	285.0
cm3/1000 strokes	: -	⊢ 2.0
Check tolerance		
cm3/1000s.	: -	⊢ 5.0
Spreed		
cm3/1000 strokes	:	8.0
Check tolerance		
cm3/1000s.	:	12.0

Aneroid pressure		
hPa	:	1500
Rated speed rpm	:	600
Del. quantity		

cm3/1000 strokes cm3/1000 strokes	:	+	277.0
Check tolerance	٠	-	5.0
cm3/1000s.	:	+-	6.0

Aneroid pressure hPa :

Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 143.0
cm3/1000 strokes : + 1.0
Check tolerance
cm3/1000s. : + 4.0

BREAKAWAY

Rack travel in	mm :	13	.40
Rated speed rp	m :	119	5
Tolerance 1/mi	n :	+-	5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 13.80

Tolerance mm	: +-	0.20
Del. quantity		
cm3/1000 strokes	:	175.0
cm3/1000 strokes	: +-	15.0
Check tolerance		
cm3/1000s	: +-	19.0

LOW IDLE

Rated speed rpm	:	350
Del. quantity		
cm3/1000 strokes	•	13.0
cm3/1000 strokes	: +	- 3.0
Check tolerance		
cm3/1000s.	: +	- 6.0
Spreed		
cm3/1000 strokes	:	4.0
Check tolerance		
cm3/1000s.	:	8.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.11.96 Test oil : ISO 4113

Combination No. : 0 402 798 201

Injection pump

Pump designation : PES8H120/720LS1003

EP type number : 0 412 728 201

Governor

Governer design. : RE33

Governer no. : 0 421 890 358

Cust. part No. : 1364711

Customer—spec. information
Customer : SCANIA
Motor : DSC 1413
Power KW : 390.0

TEST BENCH REQUIREMENTS

Inlet line : 4(EHAB)

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 3.0 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS No basic setting. Setting of constant delivery under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 8.00
Tolerance mm : +- 0.05
Check
tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 0.50

Firing order : 1-2-7-3-4 :-5-6-8

Phasing : 0-45-90-135-180 : -225-270-315

Tolerance : \leftarrow 0.50

Check

tolerance *NW : + 0.75

Start of delivery blocking

Tolerance : + 0.10 Check tolerance *NW : + 0.75

Barrel no. : 1

(B) POSITIONER TESTING Warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR POSITION
Engine speed min-1: 0
Setting point (P, R and H pump)
Uact V : 3.100 CRT mm : 13.00 Tolerance mm : +/- 0.05
Check tolerance mm : +/- 0.10
Check value (P, R and H pump)
Uact V : 1.700 CRT mm : 6.15 Tolerance mm : +/- 0.25
Check tolerance mm : +/- 0.30
Setting point (M pump)
Uact V : 3.100 CRT mm : 12.50 Tolerance mm : +/- 0.05 Check
tolerance mm : +/- 0.10
Check value (M pump)
Uact V : 1.700 CRT mm : 5.50 Tolerance mm : +/- 0.25 Check
tolerance mm : +/- 0.30
Stop position
Uact V: Value with deenergised adjusting magnet and control rod in stop position.
CRT mm : 0.75 Tolerance mm : +/- 0.25 Check
tolerance mm : +/- 0.35
ENGINE-SPEED SENSOR (All P and R pumps not H and M pumps)

Test with control	rod
in stop position	
Engine speed min-	1: 60
Amplitude V Tolerance V	: 1.4
Check	: +/- 0.6
tolerance V	: +/- 1.20
Engine speed min-	1: 600
Difference Amplitude to	
	: max.1.4
(C) TALLECTION DUM	P WITH POSITIONER
	P WITH POSTITIONER
TEST POINT V1	
Rated speed rpm	: 700
Uact V Prestroke solenoj	: 3.150
Stroke mm	· 7.60
Del. quantity	
cm3/1000 strokes	: 344.5
cm3/1000 strokes Check tolerance	: +- 1.0
cm3/1000s.	: +- 6.0
Spreed	
cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0
FUEL DELIVERY CHA	
FUEL DELIVERY CHAI	KACIEKISIICS
Rated speed rpm	: 950
Uact V	: 3.450
Prestroke solenoid Stroke mm	a : 8.20
Del. quantity	. 0.25
cm3/1000 strokes	: 365.0
cm3/1000 strokes Check tolerance	: +- 4.0
cm3/1000s.	: +- 7.0
TEST POINT L1	
Rated speed rpm	: 250
Uact V	: 1.400
Tolerance Volt Check tolerance	: +- 0.060
Volt	: +- 0.060
Prestroke solenoid	d
Stroke mm	: 9.50
Del. quantity cm3/1000 strokes	: 31.0
cm3/1000 strokes	: +- 3.0
Spreed	
cm3/1000 strokes	: 4.0

Check	tol	le	rar	ice
cm3/10	2000	\$.		

8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 27.11.96 Test oil : ISO 4113

Combination No. : 0 403 244 056

Injection pump

Pump designation : PES4MW100/720RS1525

EP type number : 0 413 204 022

6overnor

Governer design. : RQ300/1300MW160 Governer no. : 0 420 082 077

Cust. part No. : 0270749502

Customer-spec. information
Customer : MB-NFZ
Motor : OM364LA
Power KW : 103.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : ← 1.0

Prestroke mm : 4.55
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 20.00

Tolerance mm : +- 1.00

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Tolerance : + 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 13.30 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 119.0

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : + 3.0

Spreed

cm3/1000 strokes : 3.5

Check tolerance	1
cm3/1000s. : 6.0	Rack travel in mm: 20.00
(10000)	+ Tolerance mm : +- 0.80
Rated speed rpm : 300	T roter drice mail
Noted Speed I pill 1 300	I
	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm : 3.90	T FOLL LOAD DELIVERY AT FULL LOAD STOP
Tolerance ram : + 0.10	T Rated speed rpm : 1300
Del. quantity	
cm3/1000 strokes : 12.0	+ Aneroid pressure + hPa : 1200
cm3/1000 strokes : + 2.0	+ Del. quantity
Check tolerance	+ cm3/1000 strokes : 119.0
cm3/1000s. : + 4.5	+ cm3/1000 strokes : + 1.0
Spreed	
cm3/1000 strokes : 3.5	+ Check tolerance + cm3/1000s. : + 3.0
Check tolerance	
	+ Spreed
cm3/1000s. : 5.5	+ cm3/1000 strokes : 3.5
	+ Check tolerance
(D) CETTING OF THISCITON DUMO	+ cm3/1000s. : 6.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	†
WITH GOVERNOR	†
	CONTROL I SUFF
GUIDE SLEEVE TRAVEL	CONTROL LEVER
GOIDE SEEENE IKAVEL	T annual laws
Rated speed rpm : 300	control lever
	position degree : 89.0
guide sleeve travel mm : 1.12	tolerance degree : +- 4.0
Tolerance mm : +- 0.20	T DATES OFFER
roterance imi	+ RATED SPEED
Rated speed rpm : 1353	T mode through mm at 12.70
guide sleeve	rack travel mm : 12.30
travel mm : 6.52	+ Rated speed rpm : 1345 + Tolerance 1/min : + 5
Tolerance mm : +- 0.15	Tolerance 1/min : + 5
roterance in ; += 0.15	T made through many 1 / 00
Rated speed rpm : 1300	+ rack travel mm : 4.00 + Rated speed rpm : 1465
guide sleeve	+ Rated speed rpm : 1465 + Tolerance 1/min : +- 15
travel mm : 6.00	+ Toterance Dmin : +- 15
Tolerance mm : + 0.10	T mode through the control of the
Toterarice man 0.10	+ rack travel mm : 0.50 + Tolerance mm : + 0.50
Rated speed rpm : 458	
guide sleeve	Rated speed rpm : 1575
travel mm : 2.45	T
Tolerance mm : +- 0.10	T
Total differ will	LOW IDLE
Rated speed rpm : 750	I com idee
guide sleeve	I
travel mm : 6.00	control lever
Tolerance mm : + 0.10	position degree : 35.0
TO COLOR MAIN	tolerance degree : + 4.0
Rated speed rpm : 1570	total alloc deg. ec
guide sleeve	+ Testing:
travel mm : 11.50	1
Tolerance mm : + 0.50	Rated speed rpm : 300
	rack travel mm : 3.90
	+ Tolerance mm : + 0.10
GUIDE SLEEVE POSITION	1
	+ Rated speed rpm : 200
Rated speed rpm : 800	
The second secon	CRT mm min. :> 4.30
	F 500 mm mills . 7 4.50

TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 1300 : 13.30 : ← 0.05
Rated speed rpm rack travel mm Tolerance mm	: 750 : 13.30 : ← 0.20
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1200 : 13.30 : + 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm Tolerance mm	: - : 500 : ← 0.10
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 400 : 2.50 : ← 0.10
Pressure hPa rack travel mm Tolerance mm	: 200 : 0.50 : + 0.10
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity	: 1200 : 750
cm3/1000 strokes cm3/1000 strokes	: 117.0 : + 1.5
Check tolerance cm3/1000s. Spreed	: ← 4.0
opreed cm3/1000 strokes Check tolerance	: 6.0
cm3/1000s.	: 9.0

Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: 1300 : 105.0 : +- 1.5 : +- 3.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: 500 : 73.0 : +- 1.0 : +- 3.0
BREAKAWAY	
Rack travel in mm Rated speed rpm Tolerance 1/min	
STARTING FUEL DELI	IVERY
Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: 100 : 150.0 : + 5.0 : + 8.0
FOM IDE	
Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance cm3/1000s.	: 300 : 12.0 : ← 2.0 : ← 4.5 : 3.5 : 5.5
End of test specif	ication sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 21,11,96 Edition Test oil : ISO 4113

Combination No. : 0 403 456 120A

Injection pump

Pump designation : PES6MW100/321RS1210

EP type number : 0 413 406 201

Governor

Governer design. : RQZ50/1050MW84-11

: 0 420 082 066 Governer no.

Cust. part No. : 3-7577

Customer-spec. information : MAN Customer

: D 0826 LUH 06 Motor

: 184.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : + 2.0 Tolerance °C

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 bar : +- 1.5 Tolerance bar

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

3.55 Prestroke mm : + 0.05 Tolerance mm

Check

: + 0.10 tolerance mm

: 1-5-3-6-2-Firing order

: 4

Phasing : 0-60-120-180-240

: -300

: +- 0.50 Tolerance

Check

tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

800 Rated speed rpm :

Rack travel in mm : 14.05 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 162.0

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. : +- 4.0

Spreed

cm3/1000 strokes : 4.0

	+	
Check tolerance		Rack travel in mm : 20.00
cm3/1000s.	: 7.5	Tolerance mm : +- 0.80
Rated speed rpm	: 250	
(1200a opooa (p	İ	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm	: 5.10	Rated speed rpm : 800
Tolerance mm	: ← 0.10 +	Aneroid pressure
Del. quantity	+	hPa : 1100
cm3/1000 strokes		Del. quantity
cm3/1000 strokes	: ← 2.0 +	cm3/1000 strokes : 162.0
Check tolerance	: +- 4.5	cm3/1000 strokes : +- 1.0 Check tolerance
Spreed	· - 4.5	cm3/1000s. : +- 4.0
cm3/1000 strokes	: 3.5	Spreed
Check tolerance		cm3/1000 strokes : 4.0
cm3/1000s.	: 5.5	Check tolerance
	+	cm3/1000s. : 7.5
(B) SETTING OF INJ	ECTION PUMP	
WITH GOVERNOR		
	+	CONTROL LEVER
GUIDE SLEEVE TRAVE		control lever
		position degree : 98.0
Rated speed rpm	: 250	tolerance degree : +- 4.0
guide sleeve	+	
	: 1.25	RATED SPEED
Tolerance mm	: ← 0.20 +	nock though my 47.00
Rated speed rpm	: 1110	rack travel mm : 13.00 Rated speed rpm : 1105
guide sleeve	· ''''	Tolerance 1/min : + 8
travel mm	: 6.35	
	: + 0.15	rack travel mm : 4.00
	+	Rated speed rpm : 1185
	: 800 +	Tolerance 1/min : +- 15
guide sleeve	: 6.00	rack travel mm : 0.50
travel mm Tolerance mm	÷ + 0.10	rack travel mm : 0.50 Tolerance mm : + 0.50
TO LET GITLE THE	I	Rated speed rpm : 1300
Rated speed rpm	: 335	Control of the contro
guide sleeve	+	
travel mm	: 3.16 +	
Tolerance mm	: + 0.10	LOW IDLE
Rated speed rpm	: 470	
guide sleeve	}	control lever
travel mm	: 6.00 +	position degree : 71.0
Tolerance mm	: + 0.10	tolerance degree : +- 4.0
Rated speed rpm :	: 1280	Testing:
guide sleeve	+	
travel mm	: 11.50 +	Rated speed rpm : 250
Tolerance mm :	: +- 0.50 +	rack travel mm : 5.10
		Tolerance mm : ← 0.10
GUIDE SLEEVE POSITI	ION	Rated speed rpm : 150
Rated speed rpm	: 600	CRT mm min. :> 6.50

		+ Check tolerance + cm3/1000s.	: 9.0
TORQUE CONTROL		+	: 9.0
Rated speed rpm rack travel mm Tolerance mm	: 800 : 14.05 : ← 0.05	+ Aneroid pressure + hPa + Rated speed rpm - Del. quantity	
Rated speed rpm rack travel mm Tolerance mm	: 600 : 14.05 : ← 0.05	- cm3/1000 strokes - cm3/1000 strokes - Check tolerance - cm3/1000s.	
Rated speed rpm rack travel mm Tolerance mm	: 14.05	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	
ANEROID/ALTITUDE COMPENSATOR TEST		cm3/1000 strokes Check tolerance cm3/1000s.	
SETTING		BREAKAWAY	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1100 : 14.05 : ← 0.05	Rack travel in mm Rated speed rpm Tolerance 1/min	: 1105
MEASUREMENT		Tocerance 1711/111	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: - : 500 : 9.45 : + 0.05 : 500 : 700 : 13.35 : + 0.15	STARTING FUEL DEL. Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: 100 : 70.0
Pressure hPa rack travel mm Tolerance mm	: 150 : 9.75 : ← 0.05	LOW IDLE	·
		Rated speed rpm	: 250
FUEL DELIVERY CHA	RACTERISTICS	Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	: 15.0 : + 2.0
Aneroid pressure hPa	: 1100	cm3/1000s.	: ← 4.5
Rated speed rpm	: 600	cm3/1000 strokes	: 3.5
Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	: + 2.0	cm3/1000s.	: 5.5
cm3/1000S. Spreed	: +- 5.0	‡	
cm3/1000 strokes	: 6.0	+	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 21.11.96 : ISO 4113 Test oil

Combination No. : 0 403 474 021E

Injection pump

Pump designation : PES4MW100/720RS1181

EP type number : 0 413 404 107

Governor

Governer design. : RSV400...1000MW1A348

Governer no. : 0 420 085 183

Cust. part No. :

Customer-spec. information Customer : LIEBHERR : D924TI-E A2 Motor

Power KW : 132.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : + 2.0

Overflow valve : 1 417 413 049

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 : +- 1.5 bar Tolerance bar

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

31.0 Test pressure bar : Tolerance bar : + 1.0

: 3.05 Prestroke mm : +- 0.05 Tolerance mm

Check

: + 0.10 tolerance mm

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-3-4-2

: 0-90-180-270 Phasing

Tolerance : +- 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm: 13.60 Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 184.0

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +- 4.0

Spreed

cm3/1000 strokes : 4.0	RATED SPEED
Check tolerance cm3/1000s. : 7.5	rack travel mm Rated speed rpm
Rated speed rpm : 400	Tolerance 1/min
	+ rack travel mm
Rack travel in mm : 4.60 Tolerance mm : + 0.20	Rated speed rpm Tolerance 1/min
Del. quantity	Toterance mini
cm3/1000 strokes : 20.0	rack travel mm
cm3/1000 strokes : + 2.0	† Tolerance mm
Check tolerance cm3/1000s. : +- 4.5	+ Rated speed rpm
Spreed 4.5	T rack travel mm
cm3/1000 strokes : 3.5	Rated speed rpm
Check tolerance	†
cm3/1000s. : 5.0	<u> </u>
(B) SETTING OF INJECTION PUMP	LOW IDLE
WITH GOVERNOR	I
	+ control lever
	position degree
GUIDE SLEEVE POSITION	Setting point w
Rated speed rpm : 800	Rated speed rpm
	+ rack travel mm
Rack travel in mm : 0.65 Tolerance mm : + 0.35	Testing:
governor spring	Rated speed rpm
pre-tension	+ rack travel mm
click setting x : 3.25	† Tolerance mm
THE LAND DELIVERY AT 5111 LOAD OTOD	Rated speed rpm
FULL LOAD DELIVERY AT FULL LOAD STOP	CRT mm min.
Rated speed rpm : 1000	+
Aneroid pressure hPa : 1250	TORQUE CONTROL
hPa : 1250 Del. quantity	T TORGOE CONTROL
cm3/1000 strokes : 184.0	Rated speed rpm
cm3/1000 strokes : +- 1.0	+ rack travel mm
Check tolerance cm3/1000s. : +- 4.0	† Tolerance mm
Spreed	Rated speed rpm
cm3/1000 strokes : 4.0	🕂 rack travel mm
Check tolerance	† Tolerance mm
cm3/1000s. : 7.5	Rated speed rpm
	+ rack travel mm
	Tolerance mm
CONTROL LEVER	†
control lever	Į
position degree : 101.0	+
· -	+

rack travel mm Rated speed rpm Tolerance 1/min	: 12.60 : 1025 : + 5
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1075 : +- 10
rack travel mm Tolerance mm Rated speed rpm	: 1.00 : + 0.70 : 1175
rack travel mm Rated speed rpm	: 4.00 : 1085
LOW IDLE	
control lever position degree	: 73.0
Setting point w/d	out bumper spring
Rated speed rpm rack travel mm	
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 400 : 4.60 : +- 0.20
Rated speed rpm	: 100
CRT mm min.	: > 19.00
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 1000 : 13.60 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 500 : 13.60 : +- 0.05
Rated speed rpm	: 700 : 13.60

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 550
Pressure hPa : rack travel mm : 11.60
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : 1250
Rated speed rpm : 550
rack travel mm : 13.60
Tolerance mm : + 0.05

Rated speed rpm : 550

Pressure hPa : 590 rack travel mm : 12.10 Tolerance mm : +- 0.05

Pressure hPa : 720 rack travel mm : 13.00 Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1250
Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 184.0
Check tolerance
cm3/1000s. : +- 5.0
Spreed
cm3/1000 strokes : 6.0
Check tolerance
cm3/1000s. : 9.0

Aneroid pressure

hPa : 1250
Rated speed rpm : 700
Del. quantity
cm3/1000 strokes : 191.5
cm3/1000 strokes : + 2.0
Check tolerance
cm3/1000s. : + 5.0

Aneroid pressure

hPa : -Rated speed rpm : 550 Del. quantity

cm3/1000 strokes : 149.0 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0

BREAKAWAY

Rack travel in mm: 12.60
Rated speed rpm: 1025
Tolerance 1/min: +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : + 5.0 Check tolerance cm3/1000s. : + 8.0

LOW IDLE

Rated speed rpm : 400 Del. quantity cm3/1000 strokes : 20.0 cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. : +- 4.5 Spreed cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. 5.0 :

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 21.11.96 : ISO 4113 Test oil

Combination No. : 0 403 474 021F

Injection pump

Pump designation : PES4MW100/720RS1181

EP type number : 0 413 404 107

Governor

Governer design. : RSV400...1000MW1A348

Governer no. : 0 420 085 183

Cust. part No. :

Customer-spec. information Customer : LIEBHERR Motor : D924 T-E A2

Power KW : 120.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 049

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

173.5 : + 1.5 Tolerance bar

: 1 680 750 008 Test lines

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm : 3.05 : + 0.05Tolerance mm

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1- 3- 4- 2

: 0-90-180-270 Phasing

Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm: 13.20 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 176.0

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +-4.0

Spreed

cm3/1000 strokes : 4.0	† RATED
Check tolerance	+
cm3/1000s. : 7.5	+ rack t
	Rated
Rated speed rpm : 400	+ Tolera
The state of the s	+
	+ rack t
Rack travel in mm : 4.50	+ Rated
Tolerance mm : + 0.20	+ Tolera
Del. quantity	+
cm3/1000 strokes : 25.0	+ rack
cm3/1000 strokes : +- 2.0	+ Tolera
Check tolerance	→ Rated
cm3/1000S. : +- 4.5	+
Spreed	+ rack
cm3/1000 strokes : 3.5	+ Rated
Check tolerance	+
cm3/1000s. : 5.0	1
	ļ
	LOW I
(B) SETTING OF INJECTION PUMP	1
WITH GOVERNOR	1
WITH GOVERNOR	i contro
	positi
GUIDE SLEEVE POSITION	↓ Settir
00172 022272 1 00212011	1
Rated speed rpm : 800	+ Rated
	+ rack t
Rack travel in mm : 0.65	+
Tolerance mm : \leftarrow 0.35	+ Testir
	+
governor spring	+ Rated
pre-tension	+ rack t
click setting x : 3.75	+ Tolera
_	+
	+ Rated
FULL LOAD DELIVERY AT FULL LOAD STO	
	+ CRT man
Rated speed rpm : 900	+
Aneroid pressure	+
hPa : 1250	+ TORQUE
Del. quantity	+ .
cm3/1000 strokes : 176.0	+ Rated
cm3/1000 strokes : +- 1.0	+ rack t
Check tolerance	† Tolera
cm3/1000s. : $+-$ 4.0	†
Spreed	+ Rated
cm3/1000 strokes : 4.0	+ rack t
Check tolerance	† Tolera
cm3/1000s. : 7.5	t
	+ Rated
	+ rack t
CONTROL LEVER	†
	†
control lever	†
nonition dodges + CA II	+
position degree : 96.0	

RATED SPEED	
rack travel mm Rated speed rpm Tolerance 1/min	: 12.20 : 915 : ← 5
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 975 : ← 10
rack travel mm Tolerance mm Rated speed rpm	: 1.00 : + 0.70 : 1075
rack travel mm Rated speed rpm	
LOW IDLE	
control lever position degree	: 78.0
Setting point w/o	out bumper spring
Rated speed rpm rack travel mm	: 550 : 4.10
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 550 : 4.50 : + 0.20
Rated speed rpm	: 100
CRT mm min.	: > 19.00
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 900 : 13.20 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 500 : 13.20 : +- 0.05
Rated speed rpm	: 600

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm	:	550
Pressure hPa	:	_
rack travel mm	:	12.20
Tolerance mm	: -	→ 0.05

MEASUREMENT

Pressure hPa	:	1250
Rated speed rpm	:	550
rack travel mm	•	13.20
Tolerance mm	: -	→ 0.05

Rated	speed	rpm	:	550
-------	-------	-----	---	-----

Pressure hPa	:	550
rack travel mm	:	12.45
Tolerance mm	: 4	- 0.05

Pressure hPp	:	640
rack travel mm	:	13.05
Tolerance mm	: +	- 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid	pressure
Allelola	pi coodi c

hPa	:	1	250
Rated speed rpm	:		500
Del. quantity			
cm3/1000 strokes	:		178.0
cm3/1000 strokes	:	+-	2.0
Check tolerance			
cm3/1000s.	:	+-	5.0
Spreed			
cm3/1000 strokes	:		6.0
Check tolerance			
cm3/1000s.	:		9.0

Aneroid pressure

hPa	:	•	1250
Rated speed rpm	:		600
Del. quantity			
cm3/1000 strokes	:		180.0
cm3/1000 strokes	:	+-	2.0
Check tolerance			
cm3/1000s.	:	+	5.0

Aneroid pressure

hPa			:	_
	speed	מזכורו	:	550

Del. quantity cm3/1000 strokes : 156.0 cm3/1000 strokes : + 1.0 Check tolerance

cm3/1000s.: +- 4.0

BREAKAWAY

Rack travel in mm	:		12.20
Rated speed rpm	:		915
Tolerance 1/min	:	+-	5

STARTING FUEL DELIVERY

Rated speed rpm	: 100
	: 20.00
Tolerance mm	: + 1.00
Del. quantity	
cm3/1000 strokes	: 135.0
cm3/1000 strokes cm3/1000 strokes	: 135.0 : + 5.0

LOW IDLE

Rated speed rpm	: 400
Del. quantity cm3/1000 strokes cm3/1000 strokes	: 25.0 : + 2.0
Check tolerance cm3/1000s. Spreed	: ← 4.5
cm3/1000 strokes Check tolerance	: 3.5
cm3/1000s.	: 5.0

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... : 21.11.96 Edition Test oil : ISO 4113 Combination No. : 0 403 474 021G Injection pump Pump designation : PES4MW100/720RS1181 EP type number : 0 413 404 107 Governor Governer design. : RSV400...1000MW1A348 Governer no. : 0 420 085 183 Cust. part No. : Customer-spec. information Customer : LIEBHERR Motor : D924 T-E A2 Power KW : 121.0 TEST BENCH REQUIREMENTS Inlet line : 3.1 Test oil inlet temp. °C Tolerance °C Overflow valve : 1 417 413 049 Inlet press. bar : 1.5 Test nozzle holde : 0 681 343 009 assembly

: 173.5 : + 1.5

: 1 680 750 008

6.0

REMARKS	
(A) INJECTION PUMP Set equal delivery per values	quant.
BEGINNING OF DELIV	/ERY
Test pressure bar Tolerance bar	: 31.0 : ← 1.0
Prestroke mm Tolerance mm Check	: 3.05 : + 0.05
tolerance mm	: + 0.10
Rack travel in mm Tolerance mm	: 10.50 : + 1.50
Firing order	: 1-3-4-2
Phasing Tolerance Check tolerance *NW	: 0-90-180-270 : +- 0.50 : +- 0.75
Start of delivery	mark
Barrel no.	: 1
BASIC SETTING	
Rated speed rpm	: 1000
Rack travel in mm Tolerance mm	: 13.00 : + 0.05
Del. quantity cm3/1000 strokes	: 174.0
cm3/1000 strokes	: + 1.0

x inside diameter: 2.0

Opening pressure

Tolerance bar

Test lines

Outside diameter :

cm3/1000 strokes	: 4.0	RATED SPEED	
Check tolerance		NATED SPEED	
cm3/1000s.	: 7.5	rack travel mm Rated speed rpm	
Rated speed rpm	: 400	Tolerance 1/min	
	Ţ	rack travel mm	
Rack travel in mm		Rated speed rpm	
Tolerance mm Del. quantity	: + 0.20	Tolerance 1/min	
cm3/1000 strokes		rack travel mm	: 1.00
cm3/1000 strokes	: ← 2.0 }	Tolerance mm	: +- 0.70
Check tolerance	+	Rated speed rpm	: 1200
m3/1000s.	: + 4.5	mands demonstrate man	. / 00
Spreed :m3/1000 strokes	: 3.5	rack travel mm	
Check tolerance	· 3.3	Rated speed rpm	: 1090
cm3/1000s.	: 5.0		
	‡	LOW IDLE	
B) SETTING OF IN.	JECTION PUMP		
NITH GOVERNOR	I	control lever	
	1	position degree	: 80.0
UIDE SLEEVE POSIT	TTON		out bumper spring
SOIDE SEEEVE FOST	1	_	
ated speed rpm	: 800	Rated speed rpm rack travel mm	
ack travel in mm	. 0.85 I	rack travet inii	. 4.10
olerance mm		Testing:	
povernor spring	Ī	Rated speed rpm	: 550
re-tension	1		
click setting x	: 4.25	rack travel mm Tolerance mm	: ← 0.20
Clor according x	+		
ULL LOAD DELIVERY	AT FULL LOAD STOP	Rated speed rpm	: 100
	+	CRT mm min.	: > 19.00
ated speed rpm	: 1000		
neroid pressure	+		
Pa	: 1380 +	TORQUE CONTROL	
el. quantity	†	-	4000
m3/1000 strokes		Rated speed rpm	: 1000
m3/1000 strokes	: + 1.0 +	rack travel mm	: 13.00
Check tolerance	t	Tolerance mm	: +- 0.05
:m3/1000s.	: +- 4.0 +	Dadad amazal asse	
Spreed		Rated speed rpm rack travel mm	
cm3/1000 strokes	: 4.0	rack travel mm Tolerance mm	
Check tolerance cm3/1000s.	: 7.5	ioterance mm	0,05
10003.	· '	Rated speed rpm	: 700
	I	rack travel mm	: 13.00
		Tolerance mm	
ONTROL LEVER	+	TO COLUMN TO THE	
control lever	<u> </u>		
control lever cosition degree	· 102 0 I		

position degree : 102.0

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

550 Rated speed rpm Pressure hPa 11.80 rack travel mm : : +- 0.05 Tolerance mm

MEASUREMENT

1380 Pressure hPa 550 Rated speed rpm 13.00 rack travel mm Tolerance mm : + 0.05

Rated speed rpm • 550

Pressure hPa : 560 12.10 rack travel mm Tolerance mm : + 0.05

660 Pressure hPa 12.70 rack travel mm : ← 0.10 Tolerance mm

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

1380 hPa Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 173.0 cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 5.0 Spreed cm3/1000 strokes : 6.0 Check tolerance

9.0

Aneroid pressure

cm3/1000s.

1380 hPa Rated speed rpm 700 Del. quantity cm3/1000 strokes : 180.0 cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 5.0

Aneroid pressure

hPa 550 Rated speed rpm

Del. quantity

cm3/1000 strokes : 148.0 cm3/1000 strokes : +- 1.0 Check tolerance

cm3/1000s. : +- 4.0

BREAKAWAY

Rack travel in mm : 12.00 Rated speed rpm : 1020 Tolerance 1/min : +-

STARTING FUEL DELIVERY

Rated speed rpm 100 rack travel mm 20.00 Tolerance mm : +- 1.00 Del. quantity cm3/1000 strokes : 135.0 cm3/1000 strokes : \leftarrow 5.0 Check tolerance cm3/1000s. : +- 8.0

LOW IDLE

Rated speed rpm 400 Del. quantity cm3/1000 strokes : 25.0 cm3/1000 strokes : +-2.0 Check tolerance 4.5 cm3/1000s. Spreed cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. 5.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 21.11.96 Test oil

Combination No. : 0 403 474 021H

Injection pump

Pump designation : PES4MW100/720RS1181

EP type number : 0 413 404 107

Governor

Governer design. : RSV400...1000MW1A348

Governer no. : 0 420 085 183

Cust. part No. :

Customer-spec. information Customer : LIEBHERR : D924TI-E A2 Motor Power KW : 125.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

: 40 temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 049

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

bar Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 3.05 Tolerance mm : + 0.05 Check tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-3-4-2

: 0-90-180-270 : +- 0.50 Phasing

Tolerance

Check

tolerance *NW : +- 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm: 13.30 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 178.0

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 4.0

Spreed

cm3/1000 strokes : 4.0 +	DATEN CREEN
Cheek telepane	RATED SPEED
Check tolerance + cm3/1000s. : 7.5 +	rack travel mm : 12.30
Time 10003.	rack travel mm : 12.30 Rated speed rpm : 915
Rated speed rpm : 400	Tolerance 1/min : + 5
Mateu speed i piii . +00	
4	rack travel mm : 4.00
Rack travel in mm: 4.60	Rated speed rpm : 980
Tolerance mm : + 0.20	Tolerance 1/min : +- 10
Del. quantity	
cm3/1000 strokes : 12.0	rack travel mm : 1.00
cm3/1000 strokes : + 2.0 +	Tolerance mm : +- 0.70
Check tolerance +	Rated speed rpm : 1175
cm3/1000s. : + 4.5	
Spreed	rack travel mm : 4.00
cm3/1000 strokes : 3.5	Rated speed rpm : 990
Check tolerance + cm3/1000s. : 5.0 +	
cm3/1000s. : 5.0	
I	LOW IDLE
(B) SETTING OF INJECTION PUMP	204 1022
WITH GOVERNOR	
}	control lever
+	position degree : 74.0
+	
GUIDE SLEEVE POSITION	Setting point w/out bumper spring
Rated speed rpm : 800 +	Rated speed rpm : 400
Rated speed (pill) . 600	rack travel mm : 4.30
T	I GUN CI GYCL IRII . T.JU
Park travel in mm · 0.65	
Rack travel in mm: 0.65	Testina:
Rack travel in mm: 0.65 Tolerance mm: + 0.35	Testing:
Tolerance mm : + 0.35	Rated speed rpm : 400
Tolerance mm : + 0.35 governor spring pre-tension	Rated speed rpm : 400 rack travel mm : 4.60
Tolerance mm : + 0.35	Rated speed rpm : 400
Tolerance mm : + 0.35 governor spring pre-tension	Rated speed rpm : 400 rack travel mm : 4.60 Tolerance mm : + 0.20
Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.50	Rated speed rpm : 400 rack travel mm : 4.60
Tolerance mm : + 0.35 governor spring pre-tension	Rated speed rpm : 400 rack travel mm : 4.60 Tolerance mm : + 0.20 Rated speed rpm : 100
Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 400 rack travel mm : 4.60 Tolerance mm : + 0.20
Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 900	Rated speed rpm : 400 rack travel mm : 4.60 Tolerance mm : + 0.20 Rated speed rpm : 100
Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 900 Aneroid pressure	Rated speed rpm : 400 rack travel mm : 4.60 Tolerance mm : + 0.20 Rated speed rpm : 100 CRT mm min. : > 19.00
Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 900 Aneroid pressure hPa : 1100	Rated speed rpm : 400 rack travel mm : 4.60 Tolerance mm : + 0.20 Rated speed rpm : 100
Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 900 Aneroid pressure	Rated speed rpm : 400 rack travel mm : 4.60 Tolerance mm : + 0.20 Rated speed rpm : 100 CRT mm min. : > 19.00
Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 900 Aneroid pressure hPa : 1100 Del. quantity	Rated speed rpm : 400 rack travel mm : 4.60 Tolerance mm : + 0.20 Rated speed rpm : 100 CRT mm min. : > 19.00 TORQUE CONTROL
Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 900 Aneroid pressure hPa : 1100 Del. quantity cm3/1000 strokes : 178.0 cm3/1000 strokes : + 1.0 Check tolerance	Rated speed rpm : 400 rack travel mm : 4.60 Tolerance mm : + 0.20 Rated speed rpm : 100 CRT mm min. : > 19.00 TORQUE CONTROL Rated speed rpm : 900
Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 900 Aneroid pressure hPa : 1100 Del. quantity cm3/1000 strokes : 178.0 cm3/1000 strokes : + 1.0	Rated speed rpm : 400 rack travel mm : 4.60 Tolerance mm : + 0.20 Rated speed rpm : 100 CRT mm min. : > 19.00 TORQUE CONTROL Rated speed rpm : 900 rack travel mm : 13.30 Tolerance mm : + 0.05
Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 900 Aneroid pressure hPa : 1100 Del. quantity cm3/1000 strokes : 178.0 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed	Rated speed rpm : 400 rack travel mm : 4.60 Tolerance mm : + 0.20 Rated speed rpm : 100 CRT mm min. : > 19.00 TORQUE CONTROL Rated speed rpm : 900 rack travel mm : 13.30 Tolerance mm : + 0.05 Rated speed rpm : 500
Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 900 Aneroid pressure hPa : 1100 Del. quantity cm3/1000 strokes : 178.0 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed cm3/1000 strokes : 4.0	Rated speed rpm : 400 rack travel mm : 4.60 Tolerance mm : + 0.20 Rated speed rpm : 100 CRT mm min. : > 19.00 TORQUE CONTROL Rated speed rpm : 900 rack travel mm : 13.30 Tolerance mm : + 0.05 Rated speed rpm : 500 rack travel mm : 13.30
Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 900 Aneroid pressure hPa : 1100 Del. quantity cm3/1000 strokes : 178.0 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed cm3/1000 strokes : 4.0 Check tolerance	Rated speed rpm : 400 rack travel mm : 4.60 Tolerance mm : + 0.20 Rated speed rpm : 100 CRT mm min. : > 19.00 TORQUE CONTROL Rated speed rpm : 900 rack travel mm : 13.30 Tolerance mm : + 0.05 Rated speed rpm : 500
Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 900 Aneroid pressure hPa : 1100 Del. quantity cm3/1000 strokes : 178.0 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed cm3/1000 strokes : 4.0	Rated speed rpm : 400 rack travel mm : 4.60 Tolerance mm : + 0.20 Rated speed rpm : 100 CRT mm min. : > 19.00 TORQUE CONTROL Rated speed rpm : 900 rack travel mm : 13.30 Tolerance mm : + 0.05 Rated speed rpm : 500 rack travel mm : 13.30 Tolerance mm : + 0.05
Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 900 Aneroid pressure hPa : 1100 Del. quantity cm3/1000 strokes : 178.0 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed cm3/1000 strokes : 4.0 Check tolerance	Rated speed rpm : 400 rack travel mm : 4.60 Tolerance mm : + 0.20 Rated speed rpm : 100 CRT mm min. :> 19.00 TORQUE CONTROL Rated speed rpm : 900 rack travel mm : 13.30 Tolerance mm : + 0.05 Rated speed rpm : 500 rack travel mm : 13.30 Tolerance mm : + 0.05 Rated speed rpm : 600
Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 900 Aneroid pressure hPa : 1100 Del. quantity cm3/1000 strokes : 178.0 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed cm3/1000 strokes : 4.0 Check tolerance	Rated speed rpm : 4.60 Tolerance mm : + 0.20 Rated speed rpm : 100 CRT mm min. :> 19.00 TORQUE CONTROL Rated speed rpm : 900 rack travel mm : 13.30 Tolerance mm : + 0.05 Rated speed rpm : 500 rack travel mm : 13.30 Tolerance mm : + 0.05 Rated speed rpm : 600 rack travel mm : 13.30 Tolerance mm : + 0.05
Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 900 Aneroid pressure hPa : 1100 Del. quantity cm3/1000 strokes : 178.0 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 7.5	Rated speed rpm : 400 rack travel mm : 4.60 Tolerance mm : + 0.20 Rated speed rpm : 100 CRT mm min. :> 19.00 TORQUE CONTROL Rated speed rpm : 900 rack travel mm : 13.30 Tolerance mm : + 0.05 Rated speed rpm : 500 rack travel mm : 13.30 Tolerance mm : + 0.05 Rated speed rpm : 600
Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 900 Aneroid pressure hPa : 1100 Del. quantity cm3/1000 strokes : 178.0 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed cm3/1000 strokes : 4.0 Check tolerance	Rated speed rpm : 4.60 Tolerance mm : + 0.20 Rated speed rpm : 100 CRT mm min. :> 19.00 TORQUE CONTROL Rated speed rpm : 900 rack travel mm : 13.30 Tolerance mm : + 0.05 Rated speed rpm : 500 rack travel mm : 13.30 Tolerance mm : + 0.05 Rated speed rpm : 600 rack travel mm : 13.30 Tolerance mm : + 0.05
Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 900 Aneroid pressure hPa : 1100 Del. quantity cm3/1000 strokes : 178.0 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 7.5	Rated speed rpm : 4.60 Tolerance mm : + 0.20 Rated speed rpm : 100 CRT mm min. :> 19.00 TORQUE CONTROL Rated speed rpm : 900 rack travel mm : 13.30 Tolerance mm : + 0.05 Rated speed rpm : 500 rack travel mm : 13.30 Tolerance mm : + 0.05 Rated speed rpm : 600 rack travel mm : 13.30 Tolerance mm : + 0.05
governor spring pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 900 Aneroid pressure hPa : 1100 Del. quantity cm3/1000 strokes : 178.0 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 7.5 CONTROL LEVER	Rated speed rpm : 4.60 Tolerance mm : + 0.20 Rated speed rpm : 100 CRT mm min. :> 19.00 TORQUE CONTROL Rated speed rpm : 900 rack travel mm : 13.30 Tolerance mm : + 0.05 Rated speed rpm : 500 rack travel mm : 13.30 Tolerance mm : + 0.05 Rated speed rpm : 600 rack travel mm : 13.30 Tolerance mm : + 0.05
Tolerance mm : + 0.35 governor spring pre-tension click setting x : 4.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 900 Aneroid pressure hPa : 1100 Del. quantity cm3/1000 strokes : 178.0 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 7.5 CONTROL LEVER control lever	Rated speed rpm : 4.60 Tolerance mm : + 0.20 Rated speed rpm : 100 CRT mm min. :> 19.00 TORQUE CONTROL Rated speed rpm : 900 rack travel mm : 13.30 Tolerance mm : + 0.05 Rated speed rpm : 500 rack travel mm : 13.30 Tolerance mm : + 0.05 Rated speed rpm : 600 rack travel mm : 13.30 Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : rack travel mm : 12.15
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : 1100
Rated speed rpm : 500
rack travel mm : 13.30
Tolerance mm : + 0.05

Rated speed rpm : 500

Pressure hPa : 575
rack travel mm : 12.35
Tolerance mm : + 0.05

Pressure hPa : 725
rack travel mm : 13.05
Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1100 Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 180

cm3/1000 strokes : + 2.0 Check tolerance

: +-

5.0

cm3/1000s.

Spreed cm3/1000 strokes : 6.0

Check tolerance cm3/1000s. : 9.0

Aneroid pressure

hPa : 1100 Rated speed rpm : 600

Del. quantity

cm3/1000 strokes : 184.0 cm3/1000 strokes : + 2.0 Check tolerance

cm3/1000s. : + 5.0

Aneroid pressure

hPa : Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 157.0 cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

BREAKAWAY

Rack travel in mm: 12.30
Rated speed rpm: 915
Tolerance 1/min: + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 135.0 cm3/1000 strokes : + 5.0 Check tolerance cm3/1000s. : + 8.0

LOW IDLE

Rated speed rpm : 400 Del. quantity cm3/1000 strokes : 12.0 cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. : +- 4.5 Spreed cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. 5.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 28.11.96

Combination No. : 9 400 087 479

Injection pump

Pump designation : PES6P120A720LS7257

: -10

EP type number : 9 400 087 086

Governor

Governer design. : RQV300...1050PA1029

Governer no. : 9 420 080 340

Cust. part No. : 0250742202

Customer-spec. information Customer : MBB

: OM 447 LA Motor Power KW : 257.6

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C : 40 : +- 2.0 Tolerance °C

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3 x length mm : 1000 3.0

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.65
Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 21.00

Firing order : 6-2-4-1-5-

: 3

Phasing : 0-60-120-180-240

: -300

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 13.70

Tolerance mm : \leftarrow 0.10

Del. quantity

cm3/1000 strokes : 247.5

cm3/1000 strokes : +- 1.0

Check tolerance

: +- 4.0 cm3/1000s.

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s.

: 9.0

Rated speed rpm : 300	+ Aneroid pressure + hPa : 1100 + Del. quantity
Rack travel in mm: 5.30	+ cm3/1000 strokes : 247.5
Tolerance mm : +- 0.10	+ cm3/1000 strokes : +- 1.0
Del. quantity cm3/1000 strokes : 14.0 cm3/1000 strokes : +- 3.0	Check tolerance cm3/1000s. : +- 4.0 Spreed
Check tolerance	+ cm3/1000 strokes : 5.0
cm3/1000s. : +- 6.0	+ Check tolerance
Spreed	+ cm3/1000s. : 9.0
cm3/1000 strokes : 8.0	
Check tolerance	+
cm3/1000s. : 12.0	+
	+ CONTROL LEVER
	+
(B) SETTING OF INJECTION PUMP	+ control lever
WITH GOVERNOR	+ position degree : 55.0
	tolerance degree : + 4.0
CHINE OF FEME TRAVEL	† control town
GUIDE SLEEVE TRAVEL	+ control lever + position degree : 121.0
Rated speed rpm : 1050	tolerance degree : +- 4.0
guide sleeve	T total dice degree 4.0
travel mm : 7.80	+ RATED SPEED
Tolerance mm : + 0.10	+
	+ rack travel mm : 12.70
Rated speed rpm : 700	+ Rated speed rpm : 1095
guide steeve	+ Tolerance 1/min : +- 5
travel mm : 5.45	+
Tolerance mm : + 0.25	rack travel mm : 4.00
700	Rated speed rpm : 1170
Rated speed rpm : 300	† Tolerance 1/min : +- 15
guide sleeve travel mm : 0.75	T rack travel mm : 0.50
travel mm : 0.75 Tolerance mm : + 0.25	Tolerance mm : + 0.50
TOTAL MINE TOTAL	Rated speed rpm : 1300
Rated speed rpm : 500	+
guide sleeve	+
travel mm : 3.55	+
Tolerance mm : + 0.25	+ LOW IDLE
Data dament upon a 84/P	†
Rated speed rpm : 1165	† + control lever
guide steeve travet mm : 9.45	position degree : 82.0
Tolerance mm : + 0.25	tolerance degree : + 4.0
Toterance in . The ones	Toccerance degree 4.0
	control lever
GUIDE SLEEVE POSITION	position degree : 17.0
	tolerance degree : +- 4.0
Rated speed rpm : 1120	+
	† Testing:
Rack travel in mm: 16.50	700
Tolerance mm : + 1.30	Rated speed rpm : 300
	rack travel mm : 5.30 Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	T TOLET GITLE HINT : TO U. IU
FULL LUMD DELIVERT AT FUEL LUMD STOP	Rated speed rpm : 100
Rated speed rpm : 700	- Nation open i più
· · · · · · · · · · · · · · · · · · ·	CRT mm min. :> 8.00
	-

DROUGE CONTROL Spread Cm3/1000 strokes : 8.0	Rated speed rpm	: 350	cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 5.0
TORQUE CONTROL			
Rated speed rpm : 700 rack travel mm : + 0.10 Rated speed rpm : 1050 rack travel mm : 13.70 Tolerance mm : + 0.10 Rated speed rpm : 1050 rack travel mm : 13.70 Tolerance mm : + 0.10 Rated speed rpm : 500 ANEROID/ALTITUBE COMPENSATOR TEST SETTING Rated speed rpm : 500 Rated speed rpm : 500 Rated speed rpm : 500 Rated speed rpm : 500 Rated speed rpm : 13.70 Tolerance mm : + 0.10 Rated speed rpm : 500 Rated speed rpm : 500 Ressure hPa : 13.70 Tolerance mm : + 0.10 MEASUREMENT Pressure hPa : - Rated speed rpm : 500 Rated speed rpm : 500 Rated speed rpm : 500 Rated speed rpm : 500 Rated speed rpm : 500 Rated speed rpm : 500 Rated speed rpm : 0.15 Pressure hPa : 720 rack travel mm : 2.65 Tolerance mm : + 0.15 Pressure hPa : 0.80 Tolerance mm : + 0.10 START CUT-OUT Rated speed rpm : > 100 Check speed 1/min : > 80 Check speed 1/min : > 80 Check speed 1/min : > 80 Check speed 1/min : < 240 PUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : 1100 Rated speed rpm : 1000 Rated speed rpm : 1000 Rated speed rpm : < 220 Check speed 1/min : > 80 Check tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000 strokes : + 4.0 Spreed cm3/1000 strokes : + 4.0 Spreed cm3/1000 strokes : + 4.0 Spreed cm3/1000 strokes : + 4.0 Spreed cm3/1000 strokes : + 4.0 Spreed cm3/1000 strokes : + 4.0 Spreed cm3/1000 strokes : + 4.0 Spreed cm3/1000 strokes : + 4.0 Spreed cm3/1000 strokes : + 4.0 Spreed cm3/1000 strokes : + 4.0 Spreed cm3/1000 strokes : + 4.0 Spreed cm3/1000 strokes : + 4.0 Spreed cm3/1000 strokes : + 4.0 Spreed cm3/1000 strokes : + 4.0 Spreed cm3/1000 strokes : + 4.0 Spreed cm3/1000 strokes : + 4.0 Spreed cm3/1000 strokes : + 4.0 Spreed cm3/1000 strokes : + 4.0 Spreed cm3/1000 strokes : + 4.0 Spreed cm3/1000 strokes	TORQUE CONTROL	İ	cm3/1000 strokes : 8.0
Tack travel mm	Rated speed rpm	: 700	
Rated speed rpm : 1050 rack travel mm : 13.70 Tolerance mm : + 0.10 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 500 Pressure hPa : 1100 rack travel mm : 13.70 Tolerance mm : + 0.10 Rated speed rpm : 500 Pressure hPa : 1100 rack travel mm : 13.70 Tolerance mm : + 0.10 MEASUREMENT Pressure hPa : - Rated speed rpm : 1095 Rated speed rpm : 500 Rated speed rpm : 500 Rated speed rpm : 500 Rated speed rpm : 500 Rated speed rpm : 500 Rated speed rpm : 500 Rated speed rpm : 500 Rated speed rpm : 500 Rated speed rpm : 500 Rated speed rpm : 500 Rated speed rpm : 1095 Tolerance mm : - 0.15 Tolerance mm : - 0.15 Pressure hPa : 400 rack travel mm : 2.65 Tolerance mm : - 0.15 Pressure hPa : 400 rack travel mm : 0.80 Tolerance mm : + 0.10 START CUT-OUT Rated speed rpm : 300 Check speed 1/min : > 80 Check speed 1/min : > 80 Check speed 1/min : < 240 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : 1100 Rated speed rpm : 1000 Rated speed rpm : 1000 Rated speed rpm : 1000 Rated speed rpm : 1000 Rated speed rpm : 300 Check tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : - 12.0	rack travel mm	: 13.70 +	
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Tack travel mm	Rated speed rpm	: 500	STARTING FUEL DELIVERY
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FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : 1100 Rated speed rpm : 1050 Del. quantity Check tolerance cm3/1000S. : 12.0 + + + + + + + + + + + + + + + + + + +			
Aneroid pressure hPa : 1100 +	FUEL DELIVERY CHAR	RACTERISTICS	Check tolerance
hPa : 1100 + Rated speed rpm : 1050 + Pal. quantity		+	cm3/1000s. : 12.0
Rated speed rpm : 1050 + Del. quantity +		1100	
Del. quantity			
cm3/1000 strokes : 242.0 +		. 1050	
The state of the s	cm3/1000 strokes	: 242.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 14.11.96 Test oil : 150 /467

Combination No. : 0 400 844 088

Injection pump

Pump designation : PES4A90D410RS2666 EP type number : 0 410 894 029

Governor

Governer design. : RQV300...1400AB1065

: -10L

Governer no. : 0 420 212 203

Cust. part No. :

Customer-spec. information Customer : MB-NFZ : 0M364 Motor Power KW : 66.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

40 temp. °C Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 1.5
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Firing order : 1-3-4-2

: 0-90-180-270

Phasing : 0-90-180 Tolerance : ← 0.50

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm: 10.95 Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 64.0

cm3/1000 strokes : \leftarrow 0.5

Check tolerance

: +- 2.5 cm3/1000S.

Spreed

cm3/1000 strokes : 3.0

Check tolerance

: 4.5 cm3/1000s.

Rated speed rpm : 300

Rack travel in mm: 8.70

Tolerance mm : +- 0.10

Del. quantity

cm3/1000 strokes : 10.0 cm3/1000 strokes : +- 2.0

Check tolerance		+ rack travel mm	· 9 9n
cm3/1000S.	: +- 4.0	+ Rated speed rpm	1445
Spreed		+ Tolerance 1/min	: +- 5
cm3/1000 strokes	. 2.0	10001 01100 17111111	
Check tolerance	. 2.0	rack travel mm	. 4.00
Check tolerance cm3/1000s.	: 4.0	Rated speed rpm	
	. 4.0	+ Tolerance 1/min	• + 15
		1 Total and 17 min	• • •
(B) SETTING OF IN	NIECTION PLIMP	+ rack travel mm	: 0.50
WITH GOVERNOR	102012011 1 01 11	Tolerance mm	: +- 0.50
		+ Rated speed rpm	: 1700
		- +	, ,,,,,,
GUIDE SLEEVE TRAV	/EL	<u> </u>	
Rated speed rpm	: 300	LOW IDLE	
guide sleeve travel mm Tolerance mm		+	
travel mm	: 1.05	+	
Tolerance mm	: +- 0.25	+ control lever	
	- -	+ position degree	: 76.0
Rated speed rpm	: 1500	tolerance degree	
مريم أمامك بسا		1	
guide sleeve travel mm Tolerance mm	: 8.55	Testing:	
Tolerance mm	: ← 0.05	+	
e e l'original de l'antige		Rated speed rpm	: 300
Rated speed rpm	: 500	rack travel mm	: 8.70
guide sleeve		+ Tolerance mm	: + 0.10
travel mm	: 2.55	+	
Tolerance mm		Rated speed rpm	: 100
		+	
Rated speed rpm	: 750	CRT mm min.	: > 10.20
quide sleeve		+	
guide sleeve travel mm	: 4.20	+ Rated speed rpm	: 610
Tolerance mm	: ← 0.10	+	
FULL LOAD DELTVER	RY AT FULL LOAD STOP	TORQUE CONTROL	
I ALL FAUN NELTAEL	THE LOAD STOP	Dimension a mm	1.00
Rated speed rpm	: 1400	Dimension a mm Rated speed rpm	1400
Aneroid pressure		+ rack travel mm	
hPa	: -	Tolerance mm	: +- 0.05
Del. quantity	•	1 occi di loc limii	
cm3/1000 strokes	: 64.0	Rated speed rpm	: 500
7/4000		rack travel mm	12.10
Check tolerance cm3/1000s.		Rated speed rpm rack travel mm Tolerance mm	: +- 0.10
cm3/1000s	· + 25	1 Octor divise man	
Spreed		Rated speed rpm	• 700
:m3/1000 strokes		rack travel mm	11 85
hack tolerance	. 5.6	rack travel mm Tolerance mm	· +- 0 15
Check tolerance cm3/1000s.	. 45	TOTAL MEN	0.12
, CUDU1 / CIII	• 7.2	I Rated speed rom	• •••
		rack traval mm	. 11 45
		Rated speed rpm rack travel mm Tolerance mm	· +- 0.15
CONTROL LEVER		T roter arice man	0.15
CONTINUE EEVEN		+	
control lever		+	
position degree	: 115.0	+ START CUT-OUT	
tolerance degree	: +- 4.0	+	
		+ Rated speed rpm	: > 100
RATED SPEED		Rated speed rpm	: < 220
		1	

Check speed 1/min Check speed 1/min	: > 80 : < 240
FUEL DELIVERY CHAN	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000strokes Check tolerance cm3/1000s. Spreed Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes Check tolerance	: 500 : 51.5 : + 1.5 : + 4.0 : 5.5 : 900 : 54.0 : + 1.5
cm3/1000s.	: +- 4.0
BREAKAWAY	
Rack travel in mm Rated speed rpm Tolerance 1/min	: 9.90 : 1445 : ← 5
STARTING FUEL DELI	VERY
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: 100 : 16.80 : + 0.20 : 83.0 : + 5.0 : + 8.0
LOW IDLE	
Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes	: 300 : 10.0 : + 2.0

Check tolerance cm3/1000s. : +- 4.0 Spreed cm3/1000 strokes : 2.0 Check tolerance cm3/1000s. : 4.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 28.11.96 Edition Test oil : ISO 4113

Combination No. : 0 400 844 089

Injection pump

Pump designation : PES4A90D410RS2666 EP type number : 0 410 894 029

Governor

Governer design. : RQV300...1400AB1065

: -10L

Governer no. : 0 420 212 203

Cust. part No. :

Customer-spec. information Customer : MB-NFZ : 0M364 Motor : 66.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

tempo. °C Tolerance °C

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 1.5 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Firing order : 1-3-4-2

: 0-90-180-270 Phasing Phasing Tolerance

: +- 0.50

Check

tolerance *NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 10.95

Tolerance m_0 : \leftarrow 0.05

Del. quantity

cm3/1000 strokes: 64.0

cm3/1000 strokes : +- 0.5

Check tolerance

cm3/1000s. 2.5

Spreed

cm3/1000 strokes : 3.0

Check tolerance

: 4.5 cm3/1000s.

Rated speed rpm : 300

Rack travel in mm: 8.70

Tolerance mm : +- 0.10

Del. quantity

cm3/1000 strokes : 10.0 cm3/1000 strokes : \leftarrow 2.0

Charle to Lamone			
Check tolerance cm3/1000s. : +-	4.0		
Spreed	1.0	CONTROL LEVER	
	2.0		
Check tolerance	1	control lever	
cm3/1000s. :	4.0	position degree	: 117.0
	+	tolerance degree	: 4.0
(D) OFFILIO OF THIS OFTON	THE .	DATES ODEES	
(B) SETTING OF INJECTION WITH GOVERNOR	PUMP	RATED SPEED	
MILL GOAEKIAOK	I	rack travel mm	. 0 00
		Rated speed rpm	
GUIDE SLEEVE TRAVEL	+	Tolerance 1/min	
Rated speed rpm : 30	00 +	rack travel mm	: 4.00
guide steeve	105	Rated speed rpm	
travel mm : 1 Tolerance mm : + 0		Tolerance 1/min	: + 15
Toterance nan	I I	rack travel mm	: 0.50
Rated speed rpm : 150	no 🗼	Tolerance mm	
guide sleeve	+	Rated speed rpm	: 1700
travel mm : 8			
Tolerance mm : +- 0	1.05		
Detect and an 50	*	1.011.701.5	
Rated speed rpm : 50 guide sleeve	T	LOW IDLE	
travel mm : 2	· 55		
Tolerance mm : + 0		control lever	
7000 07100 1001	1	position degree	: 73.0
Rated speed rpm : 75	io ‡	tolerance degree	
guide sleeve	+		
travel mm : 4		Testing:	
Tolerance mm : +- 0	1.10	Datad annud	. 700
		Rated speed rpm	: 300 : 8.70
GUIDE SLEEVE POSITION	I	rack travel mm Tolerance mm	: + 0.10
30202 32222 1 30212411	+		3.13
Rated speed rpm : 150	0 +	Rated speed rpm	: 100
Rack travel in mm : 16	50 1	CRT mm min.	. > 10 20
Tolerance mm : + 1	30	CIVI HIM WHILE	. > 10.20
TOCOT GITTO THE	1	Rated speed rpm	: 610
		•	
FULL LOAD DELIVERY AT FUL	L LOAD STOP +		
Rated speed rpm : 140	.	TORQUE CONTROL	
Rated speed rpm : 140 Aneroid pressure	Ĭ	Dimension a mm	: 1.00
hPa :	_	Rated speed rpm	
Del. quantity	4	rack travel mm	: 10.95
	4.0	Tolerance mm	: +- 0.05
cm3/1000 strokes : +-	0.5		
Check tolerance	<u>, </u>	Rated speed rpm	
	2.5	rack travel mm	: 11.95
Spreed cm3/1000 strokes :	3.0	Tolerance mm	: - 0.05
Check tolerance	I	Rated speed rpm	: 700
	4.5	rack travel mm	
	1	Tolerance mm	: +- 0.15
	+		
	+	Rated speed rpm	: 900

rack travel mm Tolerance mm	: 11.50 : ← 0.10
START CUT-OUT	
Rated speed rpm	: > 100
Rated speed rpm	: > 100 : < 220
Check	
speed 1/min	: > 80
Check speed 1/min	: < 240
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure hPa Rated speed rom	: - : 500

Aneroid pressure		
hPa	•	-
Rated speed rpm		500
Del. quantity		
cm3/1000 strokes	:	51.5
cm3/1000 strokes	. +	1.5
Check tolerance	•	
		4.0
cm3/1000s.	. +	4.0
Spreed		
Check tolerance		
cm3/1000s.	:	5.5
Aneroid pressure		
hPa	:	-
Rated speed rpm	. (200
	•	
Del. quantity	_	F/ 0
cm3/1000 strokes	•	54.0
cm3/1000 strokes	: +	1.5
Check tolerance		
cm3/1000S.	: +-	4.0

BREAKAWAY

Rack travel in mm	:	9.90
Rated speed rpm	:	
Tolerance 1/min	:	+- 5

STARTING FUEL DELIVERY

Rated speed rpm	•	100
rack travel mm	:	16.80
Tolerance mm	: +-	0.20
Del. quantity		
cm3/1000 strokes	:	83.0
cm3/1000 strokes	: +-	5.0
Check tolerance		
cm3/1000s.	: +-	8.0

LOW IDLE

•	300	
:	10.0	
: +-	4.0	
:	2.0	
:	4.0	
	: +-	: 10.0 : + 2.0 : + 4.0 : 2.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 29.11.96 Test oil : ISO 4113

Combination No. : 0 400 844 096

Injection pump

Pump designation : PES4A95D41ORS2809 EP type number : 0 410 894 993

Governor

Governer design. : RQV300...1400AB1065

: -23L

Governer no. : 0 420 212 227

Cust. part No. :

Customer-spec. information Customer : MB-NFZ Motor : OM 364 Power KW : 65.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 1.5 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Tolerance : \leftarrow 0.50

Check

tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 9.95
Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 65.5

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : + 3.0

Spreed

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s. : 6.0

Rated speed rpm : 300

Rack travel in mm: 8.60 Tolerance mm: + 0.10

Del. quantity

cm3/1000 strokes : 10.0 cm3/1000 strokes : + 2.0

Check tolerance		+	
cm3/1000s. Spreed	: +- 4.5	CONTROL LEVER	
cm3/1000 strokes	: 3.5	+	
Check tolerance	5.5	+ control lever	445.0
cm3/1000s.	: 5.5	position degree	
		tolerance degree	: +- 4.0
(B) SETTING OF IN	WECTION PUMP	A RATED SPEED	
WITH GOVERNOR		†	
		+ rack travel mm + Rated speed rpm	: 8.90 : 1455
GUIDE SLEEVE TRAV	/EL	Tolerance 1/min	
Rated speed rpm	: 300	T rack travel mm	: 4.00
guide sleeve		+ Rated speed rpm	
travel mm	: 1.05	† Tolerance 1/min	: +- 15
Tolerance mm	: + 0.25	t mark thankal me	: 0.50
Rated speed rpm	: 1500	+ rack travel mm + Tolerance mm	: +- 0.50
guide sleeve	. 1566	+ Rated speed rpm	
travel mm	: 8.55	+	
Tolerance mm	: +- 0.05	†	
Rated speed rpm	: 500	+ LOW IDLE	
guide sleeve	. 300	-	
travel mm	: 2.55	+	
Tolerance mm	: 0.25	+ control lever	
	750	+ position degree	
Rated speed rpm	: 750	† tolerance degree	: +- 4.0
guide sleeve travel mm	: 4.20	Testing:	
Tolerance mm		+ resemig.	
		+ Rated speed rpm	
		+ rack travel mm	
GUIDE SLEEVE POSI	TION	Tolerance mm	: + 0.10
Rated speed rpm	: 1450	Rated speed rpm	: 100
Rack travel in mm		CRT mm min.	: > 9.60
Tolerance mm	: + 1.30	Rated speed rpm	• 625
		Hated speed i pill	. 023
FULL LOAD DELIVER	Y AT FULL LOAD STOP		
Dahad award som	: 1400	+ TORQUE CONTROL	
Rated speed rpm Aneroid pressure	: 1400	T Rated speed rpm	: 1400
hPa	: -	+ rack travel mm	9.95
Del. quantity	·	rack travel mm Tolerance mm	: + 0.05
cm3/1000 strokes		†	
cm3/1000 strokes	: +- 1.0	+ Rated speed rpm	: 400
Check tolerance	: ← 3.0	+ rack travel mm + Tolerance mm	: 11.15 : + 0.05
cm3/1000s. Spreed	· 3.0	T roter ance min	0.00
cm3/1000 strokes	: 3.5	Rated speed rpm	: 630
Check tolerance		+ rack travel mm	: 10.85
cm3/1000s.	: 6.0	† Tolerance mm	: +- 0.15
		+ Rated speed rpm	: 925
		+ rack travel mm	
		1 LACK CLARE HIN	

Tolerance mm	: +- 0.15
START CUT-OUT	
Rated speed rpm Rated speed rpm	: > 100 : < 220
Check	
speed 1/min Check	: > 80
speed 1/min	: < 240
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure	: -
Rated speed rpm	: 400
Del. quantity cm3/1000 strokes	: 51.0
cm3/1000 strokes Check tolerance	: +- 2.0
cm3/1000s.	: +- 4.5
Aneroid pressure hPa	
Rated speed rpm	: 630
Del. quantity cm3/1000 strokes	: 53.5
cm3/1000 strokes Check tolerance	: + 2.0
cm3/1000s.	: +- 4.5
Aneroid pressure	
Rated speed rpm	925
Del. quantity cm3/1000 strokes	: 59.0
cm3/1000 strokes Check tolerance	
cm3/1000s.	: ← 4.5
BREAKAWAY	
Rack travel in mm	
Rated speed rpm Tolerance 1/min	: 1455 : +- 5
STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm Tolerance mm	: 100 : 14.60 : +- 0.20

Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: 83.0 : + 5.0 : + 8.0
LOW IDLE	
Rated speed rpm Del. quantity	: 300
cm3/1000 strokes	: 10.0
cm3/1000 strokes	: +- 2.0
Check tolerance cm3/1000s.	: +- 4.5
Spreed	7.3
cm3/1000 strokes	: 3.5
Check tolerance cm3/1000s.	: 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS tolerance *NW : +- 0.75 Note remarks Refer to Service Info for test and adjustment instructions. BASIC SETTING See microcard(s) W400/... Del. quantity : 29.11.96 cm3/1000 strokes : 74.5 Edition : ISO 4113 Test oil cm3/1000 strokes : + 0.5 Combination No. : 0 400 846 258 Check tolerance cm3/1000s. : +- 2.5 Injection pump Pump designation : PES6A90D410RS2293Z EP type number : 0 410 896 037 Spreed cm3/1000 strokes : 3.0 Governor Governer design. : RQV300...1425AB740L Check tolerance Governer no. : 0 420 212 037 4.5 cm3/1000s. Rated speed rpm : 300 Cust. part No. : (B) SETTING OF INJECTION PUMP Customer-spec. information WITH GOVERNOR Customer : MB-NFZ FULL LOAD DELIVERY AT FULL LOAD STOP TEST BENCH REQUIREMENTS Rated speed rpm : 1375 Aneroid pressure Test oil inlet 40 hPa temp. °C Tolerance °C Del. quantity 2.0 cm3/1000 strokes : 74.5 cm3/1000 strokes : +- 0.5 Inlet press. bar : 1.5 Check tolerance cm3/1000s. : +- 2.5 Opening pressure Spreed 173.5 cm3/1000 strokes : 3.0 bar Tolerance bar : + 1.5 Check tolerance cm3/1000s. 4.5 RATED SPEED REMARKS rack travel mm : 4.00 (A) INJECTION PUMP SETTING VALUES rack travel mm : 4.00 Set equal delivery quant. per values _____ LOW IDLE BEGINNING OF DELIVERY Testing: 26.0 Test pressure bar :

Tolerance : +- 0.50

rack travel mm : 2.00

Check

Tolerance bar : \leftarrow 1.0

Rated speed rpm : 100

START CUT-OUT

Rated speed rpm : > 100

Check

speed 1/min : > 80

STARTING FUEL DELIVERY

Rated speed rpm : 100

LOW IDLE

Rated speed rpm : 300

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 02.12.96 : ISO 4113

Combination No. : 0 400 846 443

Injection pump

Pump designation : PES6A90D410RS2596 EP type number : 0 410 896 073

Governor

Governer design. : RQV300...1400AB1066

: -1DL

: 0 420 214 251 Governer no.

Cust. part No. :

Customer-spec. information : MB-NFZ Customer Motor : 0M352A : 126.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 1.2

Test oil inlet

temp. °C Tolerance °C

: 1 419 992 198 Overflow valve

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 bar Tolerance bar

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm: 12.45 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 74.5

cm3/1000 strokes : \leftarrow 0.5

Check tolerance

cm3/1000s. : +-2.5

Spreed

cm3/1000 strokes : 3.0

Check tolerance

4.5 cm3/1000s.

Rated speed rpm : 300

Rack travel in mm : 9.00 Tolerance mm : \leftarrow 0.10

L01

Del. quantity		+	
cm3/1000 strokes		+	
cm3/1000 strokes	: ← 3.0		
Check tolerance		+ CONTROL LEVER	
cm3/1000s.	: +- 5.0	†	
Spreed	2.0	+ control lever	444.0
cm3/1000 strokes	: 2.0	position degree	
Check tolerance	: 4.0	tolerance degree	: 4.0
cm3/1000s.	: 4.0	T RATED SPEED	
		I RATED SPEED	
(B) SETTING OF IN	LIECTION PLIMP	rack travel mm	: 11.40
WITH GOVERNOR	RECTION TOTAL	+ Rated speed rpm	
WETTI GOTCINTON		+ Tolerance 1/min	
		+	
GUIDE SLEEVE TRAV	'EL	🕂 rack travel mm	
		+ Rated speed rpm	: 1595
Rated speed rpm	: 300	† Tolerance 1/min	: +- 15
guide sleeve		†	
travel mm	: 1.05	† rack travel mm	: 0.50
Tolerance mm	: +- 0.25	+ Tolerance mm	: +- 0.50
5 4 1 1	4500	+ Rated speed rpm	: 1750
Rated speed rpm	: 1500	†	
guide sleeve travel mm	: 8.55	Ť	
Tolerance mm	: + 0.05	LOW IDLE	
TOTEL GIFTE WHI	0.05	1	
Rated speed rpm	: 500	4	
guide sleeve	. 555	+ control lever	
travel mm	: 2.55	+ position degree	: 76.0
Tolerance mm	; ← 0.25	+ tolerance degree	
		+	
Rated speed rpm	: 750	+ Testing:	
guide sleeve		+	
travel mm	: 4.20	+ Rated speed rpm	
Tolerance mm	: +- 0.10	+ rack travel mm	
		† Tolerance mm	: + 0.10
GUIDE SLEEVE POST	TTON	Rated speed rpm	: 100
00100 000000 1001	12011	+	
Rated speed rpm	: 1500	+ CRT mm min.	: > 10.50
		+	
Rack travel in mm		+ Rated speed rpm	: 625
Tolerance mm	: ← 1.30	†	
		TORQUE CONTROL	
FILL LOAD DELTVED	Y AT FULL LOAD STOP	I TONGOE CONTROL	
I OFF FOUR DEFINER	THE FOLL EVAN OF OF	Rated speed rpm	: 1400
Rated speed rpm	: 1400	+ rack travel mm	: 12.45
Aneroid pressure		+ Tolerance mm	: +- 0.05
hPa	: 700	+	
Del. quantity		+ Rated speed rpm	: 700
cm3/1000 strokes		rack travel mm	: 13.75
cm3/1000 strokes		† Tolerance mm	: +- 0.05
Check tolerance		+	
cm3/1000s.	: + 2.5	+ Rated speed rpm	: 1000
Spreed	. .	+ rack travel mm	: 13.40
cm3/1000 strokes	: 3.0	† Tolerance mm	: + 0.10
Check tolerance	,	T Park and and a	. 1200
cm3/1000s.	: 4.5	+ Rated speed rpm	: 1200

rack travel mm Tolerance mm	: 12.75 : + 0.15
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 700 : 13.75 : +- 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 12.35 : + 0.05
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 225 : 12.70 : + 0.10
Pressure hPa rack travel mm Tolerance mm	: 350 : 13.25 : + 0.05
START CUT-OUT	
Rated speed rpm Rated speed rpm	: > 100 : < 220
Check speed 1/min Check	: > 80
speed 1/min	: < 240
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure hPa Rated speed rpm	: 700 : 700
Del. quantity cm3/1000 strokes cm3/1000 strokes	: 76.0 : + 2.0
Check tolerance cm3/1000s.	: ← 4.5
Aneroid pressure hPa	: -
Rated speed rpm Del. quantity	: 500
cm3/1000 strokes	: 56.0

Check tolerance cm3/1000s. BREAKAWAY Rack travel in mm Rated speed rpm Tolerance 1/min		
Rack travel in mm Rated speed rpm Tolerance 1/min		
Rated speed rpm Tolerance 1/min		
STARTING FUEL DEL	IVERY	
Rated speed rpm	: 100	
rack travel mm	: 15.60	
Tolerance mm	: +- 0.20	
Del. quantity	70.0	
cm3/1000 strokes		
cm3/1000 strokes Check tolerance	: ← 5.0	
cm3/1000s.	: +- 8.0	
LOW IDLE		
Rated speed rpm	: 300	
Del. quantity	. 12.0	
cm3/1000 strokes	: 12.0 : + 3.0	
Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	: 12.0 : + 3.0	
cm3/1000 strokes cm3/1000 strokes		
cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: + 3.0 : + 5.0	
cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes	: +- 3.0	
cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: + 3.0 : + 5.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 02.12.96 Test oil : ISO 4113

Combination No. : 0 400 846 476

Injection pump

Pump designation : PES6A90D410RS2293 EP type number : 0 410 896 031

Governor

Governer design. : RQV300...1400AB1141L

Governer no. : 0 420 212 148

Cust. part No. :

Customer—spec. information Customer : MB-NFZ Motor : OM 352A Power KW : 123.6

TEST BENCH REQUIREMENTS

Inlet line : 1.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance *NW : +- 0.75

BASIC SETTING

Del. quantity cm3/1000 strokes : 75.5

cm3/1000 strokes : + 0.5

Check tolerance cm3/1000s. : +- 2.5

Spreed

cm3/1000 strokes : 3.0

Check tolerance cm3/1000s. : 4.5

Rated speed rpm : 300

Rack travel in mm: 7.70
Tolerance mm: + 0.10

Del. quantity

cm3/1000 strokes : 12.0 cm3/1000 strokes : +- 3.0

Check tolerance

cm3/1000s. : +- 5.0

Spreed

cm3/1000 strokes : 2.0

Check tolerance cm3/1000s. : 4.0 control lever position degree : 15.0 tolerance degree : +- 4.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR Testing: Rated speed rpm : 300 rack travel mm : 7.70 : + 0.10 GUIDE SLEEVE POSITION Tolerance mm Rated speed rpm : 1420 Rated speed rpm : 100 CRT mm min. : > 9.20 Rack travel in mm: 17.70 Tolerance mm : + 1.70 Rated speed rpm : 413 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1375 ANEROID/ALTITUDE COMPENSATOR TEST Aneroid pressure 700 hPa Del. quantity cm3/1000 strokes : 75.5 SETTING cm3/1000 strokes : +- 0.5 Rated speed rpm : 1375
Pressure hPa : 700
rack travel mm : 11.35 Check tolerance 2.5 cm3/1000s. Spreed Tolerance mm : ← 0.05 cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 4.5 MEASUREMENT Pressure hPa Rated speed rpm : 1375 rack travel mm : 11.05 CONTROL LEVER : +- 0.05 Tolerance mm control lever position degree : 61.0 Rated speed rpm : 1375 tolerance degree : +- 4.0 Pressure hPa 280 : rack travel mm : 11.15 RATED SPEED Tolerance mm : +- 0.05 rack travel mm : 10.30
Rated speed rpm : 1440
Tolerance 1/min : + 5 START CUT-OUT rack travel mm : 4.00
Rated speed rpm : 1565
Tolerance 1/min : + 15 Rated speed rpm : > Rated speed rpm : < 100 4.00 220 Check rack travel mm : 0.50 Tolerance mm : + 0.50 speed 1/min : > 80 Check speed 1/min : < Rated speed rpm : 1650 240 FUEL DELIVERY CHARACTERISTICS LOW IDLE Aneroid pressure Rated speed rpm : 500

Del. quantity cm3/1000 strokes : 57.0 cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : **←** 3.0 BREAKAWAY Rack travel in mm: 10.30 Rated speed rpm : 1440 Tolerance 1/min : +- 5 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 14.50 Tolerance mm : **←** 0.20 Del. quantity cm3/1000 strokes : 76.0 cm3/1000 strokes : + 5.0 Check tolerance cm3/1000s. : +- 8.0 LOW IDLE Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 12.0 cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 5.0 Spreed cm3/1000 strains Check tolerance cm3/1000 strokes : 2.0 4.0 End of test specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 02.12.96 Test oil : ISO 4113

Combination No. : 0 400 846 477

Injection pump

Pump designation : PES6A90D410RS2293 EP type number : 0 410 896 031

Governor

Governer design. : RQV300...1400AB1142L

Governer no. : 0 420 212 149

Cust. part No. :

Customer—spec. information Customer : MB—NFZ Motor : 0M 352A

Power KW : 123.6

TEST BENCH REQUIREMENTS

Inlet line : 1.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance *NW : + 0.75

BASIC SETTING

Del. quantity cm3/1000 strokes : 75.5

cm3/1000 strokes : +- 0.5

Check tolerance cm3/1000s.

cm3/1000s. : +- 2.5

Spreed

cm3/1000 strokes : 3.0

Check tolerance

cm3/1000s. : 4.5

Rated speed rpm : 300

Rack travel in mm: 7.70 Tolerance mm: + 0.10

Del. quantity cm3/1000 strokes : 12.0 cm3/1000 strokes : +- 3.0

Check tolerance

cm3/1000s. : +- 5.0

Spreed

cm3/1000 strokes : 2.0

Check tolerance cm3/1000S. : 4.0 control lever position degree : 15.0 tolerance degree : +- 4.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR Testina: Rated speed rpm : 300 rack travel mm : 7.70
Tolerance mm : + 0.10 GUIDE SLEEVE POSITION Rated speed rpm : 100 Rated speed rpm : 1420 Rack travel in mm : 17.70 Tolerance mm : ← 1.70 CRT mm min. :> 9.20Rated speed rpm : 413 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1375 ANEROID/ALTITUDE Aneroid pressure COMPENSATOR TEST : 700 hPa Del. quantity cm3/1000 strokes : 75.5 SETTING cm3/1000 strokes : +- 0.5 Rated speed rpm : 1375 Check tolerance Pressure hPa : 700
rack travel mm : 11.35
Tolerance mm : + 0.05 : **←** 2.5 cm3/1000s. Spreed cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : MEASUREMENT 4.5 Pressure hPa Rated speed rpm : 1375
rack travel mm : 11.05
Tolerance mm : +- 0.05 CONTROL LEVER control lever position degree : 61.0 Rated speed rpm : 1375 tolerance degree : +- 4.0 Pressure hPa : 280 rack travel mm : 11.15 RATED SPEED Tolerance mm : \leftarrow 0.05 rack travel mm : 10.30 Rated speed rpm : 1440 Tolerance 1/min : + 5 START CUT-OUT rack travel mm : 4.00 Rated speed rpm : > 100 Rated speed rpm : 1565 Rated speed rpm : < 220 Tolerance 1/min : + 15 Check rack travel mm : 0.50 Tolerance mm : + 0.50 speed 1/min : > 80 Check speed 1/min Rated speed rpm : 1650 : < 240 FUEL DELIVERY CHARACTERISTICS LOW IDLE Aneroid pressure hPa Rated speed rpm : 500

Del. quantity cm3/1000 strokes : 57.0 cm3/1000 strokes : +- 1.0 Check tolerance

cm3/1000s.: + 3.0

BREAKAWAY

10.30 Rack travel in mm: Rated speed rpm : 1440
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 14.50 Tolerance mm : +- 0.20 Del. quantity cm3/1000 strokes : 76.0 cm3/1000 strokes : \leftarrow 5.0 Check tolerance cm3/1000s. : +- 8.0

LOW IDLE

300 Rated speed rpm : Del. quantity cm3/1000 strokes : 12.0 cm3/1000 strokes : \leftarrow 3.0 Check tolerance cm3/1000s. 5.0 Spreed cm3/1000 strokes : 2.0 Check tolerance cm3/1000s. : 4.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 30.11.96 Edition Test oil : ISO 4113

Combination No. : 0 400 846 584

Injection pump

Pump designation : PES6A95D410RS2797 EP type number : 0 410 896 900

Governor

Governer design. : RQV300...1400AB1065

: -20L

Governer no. : 0 420 212 225

Cust. part No. :

Customer-spec. information Customer : MB-NFZ : OM 366 Motor Power KW : 97.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 bar Tolerance bar

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 1.5 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : **←** 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm: 9.35 Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 67.0

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s.

: +- 3.0

Spreed

cm3/1000 strokes : 3.5

Check tolerance

6.0 cm3/1000s.

Rated speed rpm : 300

Rack travel in mm: 8.10 Tolerance mm : +- 0.10

L10

Del. quantity + cm3/1000 strokes : 12.0 +	
cm3/1000 strokes : +- 2.0 + Check tolerance cm3/1000s. : +- 4.5	CONTROL LEVER
Spreed cm3/1000 strokes : 3.5	control lever position degree : 113.0
Check tolerance cm3/1000s. : 5.5	tolerance degree : +- 4.0 RATED SPEED
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 8.30 Rated speed rpm : 1455 Tolerance 1/min : + 5
GUIDE SLEEVE TRAVEL	rack travel mm : 4.00 Rated speed rpm : 1535
Rated speed rpm : 300 guide sleeve	Tolerance 1/min : + 15
travel mm : 1.05 Tolerance mm : + 0.25	rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1670
Rated speed rpm : 1500 guide sleeve	
travel mm : 8.55 Tolerance mm : + 0.05	LOW IDLE
Rated speed rpm : 500 guide sleeve	control lever
travel mm : 2.55 Tolerance mm : + 0.25	position degree : 74.0 tolerance degree : + 4.0
Rated speed rpm : 750 guide sleeve	Testing:
travel mm : 4.20 Tolerance mm : + 0.10	Rated speed rpm : 300 rack travel mm : 8.10 Tolerance mm : + 0.10
GUIDE SLEEVE POSITION	Rated speed rpm : 100
Rated speed rpm : 1450	CRT mm min. :> 9.50
Reck travel in mm : 16.50 Tolerance mm : + 1.30	Rated speed rpm : 515
FULL LOAD DELIVERY AT FULL LOAD STOP	TORQUE CONTROL
Rated speed rpm : 1400 Aneroid pressure	Rated speed rpm : 1400 rack travel mm : 9.35 Tolerance mm : +- 0.05
hPa :	Rated speed rpm : 500 rack travel mm : 10.45 Tolerance mm : + 0.15
Check tolerance cm3/1000s. : + 3.0 + Spreed cm3/1000 strokes : 3.5	Rated speed rpm : 900 rack travel mm : 9.65 Tolerance mm : + 0.15
Check tolerance cm3/1000s. : 6.0	

START CUT-OUT

Rated speed rpm : > 100 Rated speed rpm : < 220

Check

speed 1/min : > 80

Check

speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -Rated speed rpm : 500 Del. quantity

cm3/1000 strokes : 54.5 cm3/1000 strokes : + 1.5

Check tolerance

cm3/1000s. : +- 4.0

BREAKAWAY

Rack travel in mm: 8.30
Rated speed rpm: 1455
Tolerance 1/min: + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 13.90
Tolerance mm : + 0.20
Del. quantity
cm3/1000 strokes : 83.0
cm3/1000 strokes : + 5.0
Check tolerance
cm3/1000s. : + 8.0

LOW IDLE

Rated speed rpm 300 Del. quantity cm3/1000 strokes : 12.0 cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s.4.5 Spreed cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. 5.5

End of test specification sheet

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Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 29.11.96 Test oil : ISO 4113

Combination No. : 0 400 074 876

Injection pump

Pump designation : PES4M60C320RS185 EP type number : 0 410 064 006

Governor

Governer design. : RSF360/1900M84 Governer no. : 0 420 021 287

Cust. part No. :

Customer—spec. information
Customer : MB-PKW
Motor : 0M601 D

Motor : 0M601 D23 LA

Power KW : 72.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde

assembly : 1 688 901 111

Opening pressure

bar : 148.5 Tolerance bar : +- 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.05 Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 21.00 Tolerance mm : + 1.00

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Start of delivery blocking

*NW after s.o.d. : 17.00 Tolerance : +- 0.20

Check

tolerance $^{\circ}NW$: \leftarrow 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 13.80 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 59.5

cm3/1000 strokes : + 0.7

Check tolerance cm3/1000s. : +- 1.7

Spreed

cm3/1000 strokes : 3.0

Check tolerance	+
cm3/1000s. : 3.5	CRT mm max. : 1.95
Rated speed rpm : 360	LOW IDLE
Rack travel in mm: 5.90	T EOW IDEE
Tolerance mm : + 0.10	+
Del. quantity	+ control lever
cm3/1000 strokes : 6.5 cm3/1000 strokes : +- 0.5	+ position degree : 12.0 + tolerance degree : + 2.0
Spreed	toterante degree : 1 2.0
cm3/1000 strokes : 1.0	+ Setting point w/out bumper spr
	+ Rated speed rpm : 360
(B) SETTING OF INJECTION PUMP	rack travel mm : 5.90
WITH GOVERNOR	SET IDLE AUXILIARY SPRING
	+ Rated speed rpm : 500
IDLE STAGE	+ rack travel mm : 4.00
	+ Tolerance mm : + 0.10
Rack travel in mm : 6.00 Tolerance mm : + 0.10	Load pick-up
roter drice likit	+ Rated speed rpm : 200
	+ rack travel mm : 12.20
FULL LOAD DELIVERY AT FULL LOAD STOP	† Data diamandiaman and COO
Rated speed rpm : 900	Rated speed rpm : 900
Ref. pressure	+ CRT mm max. : 1.95
ALDA / ADA hPa : 1850	+
Del. quantity	+ rack travel mm : 5.90
cm3/1000 strokes : 59.5 cm3/1000 strokes : + 0.7	Rated speed rpm : 360
Check tolerance	Ī
Check tolerance cm3/1000s. : + 1.7	+
Spreed	+ TORQUE CONTROL
cm3/1000 strokes : 3.0	Poted encod enm · 900
Check tolerance cm3/1000s. : 3.5	Rated speed rpm : 900 rack travel mm : 13.80
	+ Tolerance mm : + 0.05
	†
RATED SPEED	+ Rated speed rpm : 1500
	Rated speed rpm : 1500 rack travel mm : 13.20 Tolerance mm : + 0.10
control lever	+
position degree : 50.0	Rated speed rpm : 1900
Dated aread mm + 2150	rack travel mm : 12.50 Tolerance mm : + 0.15
Rated speed rpm : 2150	T roterance min . +- 0.15
rack travel mm : 6.60 Tolerance mm : + 0.20	Rated speed rpm : 500
	Rated speed rpm : 500 rack travel mm : 15.30 Tolerance mm : + 0.30
Rated speed rpm : 2600	Tolerance mm : \leftarrow 0.30
Rated speed rpm : 2600 rack travel mm : 0.50 Tolerance mm : + 0.50	† Rated speed rpm : 900
TOTAL UNIT 1 0.30	rack travel mm : 11.15
	rack travel mm : 11.15 Tolerance mm : + 0.10
SET IDLE CONTROL LEVER POSITION	†
Poted speed pro . OOO	ADJUSTMENT TEST ADA/ALDA
Rated speed rpm : 900	ANDOSTRICAL TEST MONT WERN
	•

LOW IDLE	
control lever position degree tolerance degree	: 12.0 : + 2.0
Setting point w/o Rated speed rpm rack travel mm	
SET IDLE AUXILIAR	Y SPRING
Rated speed rpm rack travel mm Folerance mm	
oad pick-up	
Rated speed rpm rack travel mm	: 200 : 12.20
Rated speed rpm	: 900
CRT mm max.	: 1.95
rack travel mm Rated speed rpm	: 5.90 : 360
FORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 900 : 13.80 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 1500 : 13.20 : + 0.10
ated speed rpm rack travel mm Tolerance mm	: 1900 : 12.50 : + 0.15
Rated speed rpm rack travel mm Tolerance mm	: 500 : 15.30 : + 0.30
eated speed rpm eack travel mm olerance mm	: 900 : 11.15 : + 0.10
DJUSTMENT TEST AL	DA/ALDA

SETTING		+ Spreed
		+ cm3/1000 strokes : 3.0
Rated speed rpm Ref. pressure	: 900	- Check tolerance - cm3/1000S. : 3.5
ALDA / ADA hPa	: 1600	† clib/1000s 3.3
rack travel mm	: -0.25	Ref. pressure
Tolerance mm	: +- 0.20	+ ALDA / ADA hPa : 1850
MEASUREMENT		Rated speed rpm : 500
PERSOREFICIAL		Del. quantity cm3/1000 strokes : 64.3
Rated speed rpm	: 900	+ cm3/1000 strokes : + 2.0
Ref. pressure ALDA / ADA hPa	4400	Check tolerance
ALDA / ADA NYA	: -2.65	cm3/1000s. : + 3.0 cm3/1000 strokes : 3.0
rack travel mm Tolerance mm	: + 0.10	Check tolerance
		Check tolerance cm3/1000s. : 3.5
Ref. pressure ALDA / ADA hPa	. 750	† Bof passure
rack travel mm		+ Ref. pressure + ALDA / ADA hPa : 1100
Tolerance mm		+ Rated speed rpm : 900
		Del. quantity
		- cm3/1000 strokes : 43.0 - cm3/1000 strokes : +- 0.7
FUEL DELIVERY CHA	ARACTERISTICS	i Check tolerance
		+ cm3/1000s. : $+$ 1.7
Ref. pressure	. 1950	+ Spreed + cm3/1000 strokes : 3.0
ALDA / ADA hPa Rated speed rpm	: 1500	+ Check tolerance
Del. quantity		cm3/1000s. : 3.5
cm3/1000 strokes		+
cm3/1000 strokes		İ
Check tolerance cm3/1000s.	: +- 2.0	HIGH IDLE
Spreed		+
cm3/1000 strokes		Ref. pressure
Check tolerance cm3/1000s.		ALDA / ADA hPa : 1850 Rated speed rpm : 2150
CIRCY 100001		+ rack travel mm : 6.60
Ref. pressure	4050	
ALDA / ADA hPa Rated speed rpm		+ Del. quantity + cm3/1000 strokes : 21.4
Spreed	. 1700	cm3/1000 strokes : +- 2.2
Del. quantity		+ Check tolerance
cm3/1000 strokes		
cm3/1000 strokes Check tolerance		+ Spreed + cm3/:000 strokes : 3.0
cm3/1000s.		+ Check tolerance
Spreed		+ cm3/1000s. : 3.5
cm3/1000 strokes Check tolerance	: 3.0	
cm3/1000s.	: 3.5	STARTING FUEL DELIVERY
		† Dated and decided
Ref. pressure ALDA / ADA hPa	: 1100	+ Rated speed rpm : 100 + rack travel mm :> 20.10
Rated speed rpm		Del. quantity
Del. quantity		+ cm3/1000 strokes : 54.3
cm3/1000 strokes		+ cm3/1000 strokes : + 4.0 + Check tolerance
cm3/1000 strokes Check tolerance	 0.7	+ cm3/1000s. : + 5.0
cm3/1000s.	: - 1.7	Spreed

cm3/1000 strokes : 8.0 Check tolerance

: 8.5 cm3/1000s.

LOW IDLE

Rated speed rpm : 360 rack travel mm : 5.90 Tolerance mm : + 0.10

Del. quantity

cm3/1000 strokes : 7.8 Check tolerance cm3/1000s. : +- 2.3

Spreed

Check tolerance

cm3/1000s. : 1.5

SETTING PNEUMATIC FAST IDLE (PLA) (PLA) POSITION

control lever

position degree : 12.0 tolerance degree : + 2.0

SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

Rated speed rpm : 360

Rack travel in mm: 13.70 Tolerance mm : + 0.70 Del. quantity

cm3/1000 strokes : 53.8 cm3/1000 strokes : + 3.5

: 1.80 Current A

Rated speed rpm : 2600

Rack travel in mm: 0.50 Tolerance mm : + 0.50

Current short-

Starting test

Rated speed rpm : 100

Current A : 1.80

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 360 Vacuum hPa : -450.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 29.11.96 : ISO 4113 Test oil

Combination No. : 0 400 074 883

Injection pump

Pump designation : PES4M60C320RS185 EP type number : 0 410 064 006

Governor

Governer design. : RSF375/1900M78 Governer no. : 0 420 021 274

Cust. part No. :

Customer-spec. information Customer : MB-PKW

: 0M601 D23 LA Motor

Power KW : 72.0

TEST BENCH REQUIREMENTS

Test oil inlet

temo. °C Tolerance °C

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde

: 1 688 901 111 assembly

Opening pressure

148.5 : +- 1.5 Tolerance bar

: 1 680 750 014 Test lines

Outside diameter : 6.0

x inside diameter : 2.0 600 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm Tolerance mm 2.05 : +- 0.05 Check

tolerance mm: \leftarrow 0.10

Rack travel in mm : 21.00 Tolerance mm : \leftarrow 1.00

Firing order : 1- 3- 4- 2

: 0-90-180-270 Phasing

Start of delivery blocking

*NW after s.o.d. : 17.00 : +- 0.20 Tolerance

Check

tolerance *NW : **←** 0.30

: 1 Barrel no.

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm: 13.80 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 59.5

cm3/1000 strokes : +- 0.7

Check tolerance

: **←** 1.7 cm3/1000s.

Spreed

cm3/1000 strokes : 3.0

Check tolerance

: cm3/1000s. 3.5

	+
Rated speed rpm : 375	LOW IDLE
Rack travel in mm: 6.00 Tolerance mm: + 0.10	+
Del. quantity	control lever
cm3/1000 strokes : 6.5	position degree : 12.0
cm3/1000 strokes : + 0.5	tolerance degree : +- 2.0
Spreed cm3/1000 strokes : 1.0	Setting point w/out bumper spring Rated speed rpm : 375 rack travel mm : 6.00
(B) SETTING OF INJECTION PUMP	- rack travet half . 0.20
WITH GOVERNOR	SET IDLE AUXILIARY SPRING
	Rated speed rpm : 500
IDLE STAGE	rack travel mm : 4.20
-	Tolerance mm : + 0.10
Rack travel in mm: 6.00 Tolerance mm: + 0.10	Load pick-up
	Rated speed rpm : 250 rack travel mm :> 9.00
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 900
Rated speed rpm : 900	4.05
Ref. pressure ALDA / ADA hPa : 1850	CRT mm max. : 1.95
Del. quantity	rack travel mm : 6.00
cm3/1000 strokes : 59.5	Rated speed rpm : 375
cm3/1000 strokes : + 0.7	-
Check tolerance -	+
cm3/1000s. : +- 1.7	
Spreed 7.4000	TORQUE CONTROL
cm3/1000 strokes : 3.0 - Check tolerance -	Rated speed rpm : 900
cm3/1000s. : 3.5	rack travel mm : 13.80
	Tolerance mm : +- 0.05
RATED SPEED	Rated speed rpm : 1500
1011 CA OL PPA	rack travel mm : 13.20
-	rack travel mm : 13.20 Tolerance mm : +- 0.10
control lever	Rated speed rpm : 1900
	rack travel mm : 12.50
Rated speed rpm : 2200	Tolerance mm : +- 0.10
rack travel mm : 8.30	
Tolerance mm : + 0.20	Rated speed rpm : 900
Dahad arrand man 4 2400	rack travel mm : 11.15 Tolerance mm : + 0.10
Rated speed rpm : 2600 - rack travel mm : 0.50 -	L Toterance man . — 0.10
Tolerance mm : +- 0.50	
	ADJUSTMENT TEST ADA/ALDA
SET IDLE CONTROL LEVER POSITION	SETTING
Rated speed rpm : 900	- Rated speed rpm : 900
CRT mm max. : 1.95	Ref. pressure ALDA / ADA hPa : 1600
UNI IMM INGA 1.72	rack travel mm : -0.25

Tolerance mm MEASUREMENT Rated speed rpm Ref. pressure ALDA / ADA hPa rack travel mm Tolerance mm Ref. pressure ALDA / ADA hPa rack travel mm Tolerance mm	: 900 : 1100 : -2.65 : ← 0.10 : 750 : -4.30	+++++++++++++++++++++++++++++++++++++++	Ref. pressure ALDA / ADA hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance cm3/1000s. HIGH IDLE	: 900 : 43.0 : ← 0.7 : ← 1.7 : 3.0
FUEL DELIVERY CHA	ARACTERISTICS	<u> </u>	Ref. pressure	
FOCE DEFINER! CH	ARACTERISTICS	Į	ALDA / ADA hPa	: 1850
Ref. pressure		+	Rated speed rpm	: 2200
ALDA / ADA hPa		†	rack travel mm	: 8.30
Rated speed rpm		†	Tolerance mm	: 0.20
Del. quantity cm3/1000 strokes		†	Del. quantity cm3/1000 strokes	. 31.0
cm3/1000 strokes	· 1.0	I	cm3/1000 strokes	• + 22
Check tolerance				
cm3/1000s.	: 2.0	1	Check tolerance cm3/1000s.	: +- 3.2
Spreed		4	Spreed	
cm3/1000 strokes	: 3.0	+	cm3/1000 strokes	: 3.0
Check tolerance		+	Check tolerance	
cm3/1000s.	: 3.5	+	cm3/1000s.	: 3.5
		+		
Ref. pressure	. 4000	†	CTARTANC FUEL DEL	THERM
ALDA / ADA hPa	1850	†	STARTING FUEL DEL	IVERY
Rated speed rpm	: 1900	Ī	Pated speed som	• 100
Spreed Del. quantity		I	Rated speed rpm rack travel mm	· > 20 10
cm3/1000 strokes	: 55.5	I	Del. quantity	. > 20.10
cm3/1000 strokes		1	cm3/1000 strokes	: 54.3
Check tolerance		+	cm3/1000 strokes	
cm3/1000s.	: +- 2.2	1	Check tolerance	
Spreed		+	cm3/1000s.	: +- 5.0
cm3/1000 strokes	: 3.0	+	Spreed	
Check tolerance		†	cm3/1000 strokes	: 8.0
cm3/1000s.	: 3.5	†	Check tolerance	. 9.5
Def processes		†	cm3/1000s.	: 8.5
Ref. pressure ALDA / ADA hPa	: 1100	Ī		
Rated speed rpm		I		
Del. quantity	. ,00	1		
cm3/1000 strokes	: 43.0	1	LOW IDLE	
cm3/1000 strokes		+		
Check tolerance		+	Rated speed rpm	: 375
cm3/1000s.	: +- 1.7	+	Del. quantity	
Spreed		+	cm3/1000 strokes	: 7.8
cm3/1000 strokes	: 3.0	+	Check tolerance	
Check tolerance	. 7.5	†	cm3/1000s.	: ← 2.3
cm3/1000s.	: 3.5	†	Spreed Charles to Language	
		†	Check tolerance cm3/1000s.	: 1.5
		+	UID/ 10003.	: 1.5

control lever

position degree : > 42.00

control lever

position degree : < 39.50

SETTING PNEUMATIC FAST IDLE (PLA) (PLA) POSITION

control lever

position degree : 12.0 tolerance degree : +- 2.0

Rated speed rpm : 425

Rack travel in mm : 8.40 Tolerance mm : + 0.80

Del. quantity

cm3/1000 strokes : 21.5 cm3/1000 strokes : + 3.5

Check tolerance

cm3/1000s. : +- 4.5 Vacuum hPa : 450.0

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 375 Vacuum hPa : -450.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 28.11.96 Test oil : ISO 4113

Combination No. : 0 401 848 708

Injection pump

Pump designation : PE8P110A320LS3802

: -10

EP type number : 0 411 818 710

Governor

Governer design. : RQ300/1150PA187-3 Governer no. : 0 421 801 133

Cust. part No. :

Customer—spec. information
Customer : MB—NFZ
Motor : 0M422
Power KW : 206.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Ovs flow quantity

min. 1/h : 110 Tolerance 1/h : + 10.0

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : +- 1.5 Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.05 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

Phasing : 0-45-90-135-180 : -225-270-315

Tolerance : \leftarrow 0.30

Check

tolerance 'NW : + 0.50

Start of delivery mark

Tolerance $: \leftarrow 0.10$

Check

tolerance *NW : +- 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 11.75 Tolerance mm : +- 0.05

	+ Rated speed rpm : 650
Del. quantity cm3/1000 strokes : 114.0	Rack travel in mm: 13.50 Tolerance mm: + 0.50
cm3/1000 strokes : + 1.0	
Check tolerance cm3/1000s. : + 3.5	FULL LOAD DELIVERY AT FULL LOAD STOP
Spreed cm3/1000 strokes : 4.0	+ Rated speed rpm : 750 + Aneroid pressure + hPa : -
Check tolerance cm3/1000s. : 7.0	+ Del. quantity + cm3/1000 strokes : 114.0 + cm3/1000 strokes : + 1.0
Rated speed rpm : 300	Check tolerance cm3/1000S. : +- 3.5 Spreed
Rack travel in mm : 8.10 Tolerance mm : + 0.10	- cm3/1000 strokes : 4.0 - Check tolerance - cm3/1000S. : 7.0
Del. quantity cm3/1000 strokes : 18.0	T (110) 10003 /.U
<pre>cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 5.5</pre>	CONTROL LEVER
Spreed cm3/1000 strokes : 4.0 Check tolerance	+ control lever + position degree : 43.0 + tolerance degree : + 4.0
cm3/1000s. : 7.0	RATED SPEED
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 10.70 Rated speed rpm : 1203 Tolerance 1/min : + 8
GUIDE SLEEVE TRAVEL	rack travel mm : 4.00 Rated speed rpm : 1255
Rated speed rpm : 300 guide sleeve	Tolerance 1/min : + 15
travel mm : 2.20 Tolerance mm : + 0.10	+ rack travel mm : 0.75 + Tolerance mm : + 0.75 + Rated speed rpm : 1350
Rated speed rpm : 1250 guide sleeve travel mm : 9.80	‡
Tolerance mm : ← 0.50	LOW IDLE
Rated speed rpm : 650 guide sleeve travel mm : 7.00	control lever position degree : 18.0
Tolerance mm : + 0.10	tolerance degree : +- 4.0
Rated speed rpm : 1200 guide sleeve travel mm : 7.50	Testing: Rated speed rpm : 300
Tolerance mm : + 0.20	rack travel mm : 8.10 Tolerance mm : + 0.10
GUIDE SLEEVE POSITION	rack travel mm : 2.00 Rated speed rpm : 440

Tolerance 1/min	: +-	20
Rated speed rpm	:	100
CRT mm min.	: >	10.20
Rated speed rpm	:	550
CRT mm max.	: <	1.80
TORQUE CONTROL		

Rated speed rpm rack travel mm	:	750 11.75
Tolerance mm	: +	- 0.05
Rated speed rom	•	1150

rack travel mm : 11.75 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure		
hPa	:	-
Rated speed rpm	:	1150
Del quantity		

Del. quantity cm3/1000 strokes : 134.0 cm3/1000 strokes : + 2.0 Check tolerance : +- 5.0 cm3/1000s. Spreed

cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. 8.0

BREAKAWAY

Rack travel in mm : 10.70
Rated speed rpm : 1203
Tolerance 1/min : +- 8

STARTING FUEL DELIVERY

Rated speed rpm Del. quantity	:	100
cm3/1000 strokes	:	140.0
cm3/1000 strokes Check tolerance	: +	- 10.0
cm3/1000s.	: +	- 14.0

LOW IDLE

: 300
: 18.0
: +- 3.0
: +- 5.5
: 4.0
: 7.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 28.11.96 Test oil : ISO 4113

Combination No. : 0 401 848 761

Injection pump

Pump designation : PE8P120A320LS3807

: -10

EP type number : 0 411 828 713

Governor

Governer design. : RQ300/1150PA546-9

Governer no. : 0 421 801 375

Cust. part No. :

Customer-spec. information
Customer : MB-NFZ
Motor : 0M422 LA
Power KW : 276.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. $^{\circ}$ C :

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Overflow quantity

min. l/h : 110 Tolerance l/h : + 10.0

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 067

Outside diameter : 6.0

x inside diameter: 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.05 Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

Phasing : 0-45-90-135-180

: -225-270-315

Tolerance : + 0.30

Check

tolerance *NW : + 0.50

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance *NW : +- 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 11.55
Tolerance mm : +- 0.05

	+	Tolerance mm	: +- 0.25
Del. quantity	+		
cm3/1000 strokes :	176.0		
	1	GUIDE SLEEVE POSIT	TON
cm3/1000 strokes : +	- 1.0		
	1	Rated speed rpm	: 600
Check tolerance		Nated Speed Ppill	. 000
cm3/1000s. : +	- 4.0 I	Rack travel in mm	20.00
CM3/10003. : +	- 4.0		
C		Tolerance mm	: 0.00
Spreed	T .		
cm3/1000 strokes :	5.0 +		
		FULL LOAD DELIVERY	AT FULL LOAD STOP
Check tolerance	+		
cm3/1000s. :	9.0 +	Rated speed rpm	: 1150
	+	Aneroid pressure	
Rated speed rpm :	300 +	hPa	: 700
, ,	1	Del. quantity	
	1	cm3/1000 strokes	: 176.0
Rack travel in mm :	5.10	cm3/1000 strokes	
	- 0.10	Check tolerance	
Del. quantity	1	cm3/1000s.	: +- 4.0
cm3/1000 strokes :	16.0	Spreed	• • •••
cm3/1000 strokes : +		cm3/1000 strokes	: 5.0
	T 4.0	Check tolerance	. 5.0
Check tolerance	7.0		. 0.0
cm3/1000s. : +	- 7.0 +	cm3/1000s.	: 9.0
Spreed	†		
cm3/1000 strokes :	8.0 +		
Check tolerance	†		
cm3/1000s. :	12.0 +	CONTROL LEVER	
	+		
	+	control lever	
(B) SETTING OF INJECT	ION PUMP +	position degree	: 93.0
WITH GOVERNOR	+	tolerance degree	: +- 4.0
	+		
		RATED SPEED	
GUIDE SLEEVE TRAVEL	+		
	+	rack travel mm	: 10.50
Rated speed rpm :			
	300 +	Rated speed rpm	
CUIDE SLEEVE	300	Rated speed rpm Tolerance 1/min	: 1203
guide sleeve	+	Rated speed rpm Tolerance 1/min	
travel mm :	1.70	Tolerance 1/min	: 1203 : +- 8
travel mm :	+	Tolerance 1/min rack travel mm	: 1203 : +- 8 : 4.00
travel mm : Tolerance mm : +	1.70	Tolerance 1/min rack travel mm Rated speed rpm	: 1203 : +- 8 : 4.00 : 1270
travel mm : Tolerance mm : + Rated speed rpm :	1.70	Tolerance 1/min rack travel mm	: 1203 : +- 8 : 4.00
travel mm : Tolerance mm : + Rated speed rpm : guide sleeve	1.70 - 0.10 1210	Tolerance 1/min rack travel mm Rated speed rpm Tolerance 1/min	: 1203 : + 8 : 4.00 : 1270 : + 15
Travel mm : Tolerance mm : + Rated speed rpm : guide sleeve travel mm :	1.70 - 0.10 1210 6.65	Tolerance 1/min rack travel mm Rated speed rpm Tolerance 1/min rack travel mm	: 1203 : + 8 : 4.00 : 1270 : + 15 : 0.75
travel mm : Tolerance mm : + Rated speed rpm : guide sleeve travel mm :	1.70 - 0.10 1210	Tolerance 1/min rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Tolerance mm	: 1203 : + 8 : 4.00 : 1270 : + 15 : 0.75 : + 0.75
Travel mm : Tolerance mm : + Rated speed rpm : guide sleeve travel mm : Tolerance mm : +	1.70 - 0.10 1210 6.65 - 0.15	Tolerance 1/min rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Tolerance mm	: 1203 : + 8 : 4.00 : 1270 : + 15 : 0.75
Travel mm : Tolerance mm : + Rated speed rpm : guide sleeve travel mm : Tolerance mm : + Rated speed rpm :	1.70 - 0.10 1210 6.65	Tolerance 1/min rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Tolerance mm	: 1203 : + 8 : 4.00 : 1270 : + 15 : 0.75 : + 0.75
Travel mm : Tolerance mm : + Rated speed rpm : guide sleeve travel mm : Tolerance mm : + Rated speed rpm : guide sleeve	1.70 - 0.10 1210 - 6.65 - 0.15 - 600	Tolerance 1/min rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Tolerance mm	: 1203 : + 8 : 4.00 : 1270 : + 15 : 0.75 : + 0.75
Travel mm : Tolerance mm : + Rated speed rpm : guide sleeve travel mm : Tolerance mm : + Rated speed rpm : guide sleeve travel mm :	1.70 - 0.10 1210 - 6.65 - 0.15 - 600 - 6.00	Tolerance 1/min rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Tolerance mm Rated speed rpm	: 1203 : + 8 : 4.00 : 1270 : + 15 : 0.75 : + 0.75
travel mm : Tolerance mm : + Rated speed rpm : guide sleeve travel mm : Tolerance mm : + Rated speed rpm : guide sleeve travel mm :	1.70 - 0.10 1210 - 6.65 - 0.15 - 600	Tolerance 1/min rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Tolerance mm	: 1203 : + 8 : 4.00 : 1270 : + 15 : 0.75 : + 0.75
Travel mm : Tolerance mm : + Rated speed rpm : guide sleeve travel mm : + Rated speed rpm : guide sleeve travel mm : + Tolerance mm : + Tolerance mm : +	1.70 - 0.10 1210 6.65 - 0.15 600 6.00 - 0.10	Tolerance 1/min rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Tolerance mm Rated speed rpm	: 1203 : + 8 : 4.00 : 1270 : + 15 : 0.75 : + 0.75
Travel mm : Tolerance mm : + Rated speed rpm : guide sleeve travel mm : + Rated speed rpm : guide sleeve travel mm : + Tolerance mm : + Tolerance mm : +	1.70 - 0.10 1210 - 6.65 - 0.15 - 600 - 6.00	Tolerance 1/min rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Tolerance mm Rated speed rpm	: 1203 : + 8 : 4.00 : 1270 : + 15 : 0.75 : + 0.75
Travel mm Tolerance mm: + Rated speed rpm guide sleeve travel mm Tolerance mm: + Rated speed rpm guide sleeve travel mm: : Tolerance mm: + Rated speed rpm: : Rated speed rpm: : Rated speed rpm: :	1.70 - 0.10 1210 6.65 - 0.15 600 6.00 - 0.10	Tolerance 1/min rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Tolerance mm Rated speed rpm	: 1203 : + 8 : 4.00 : 1270 : + 15 : 0.75 : + 0.75
Travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm : +- Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	1.70 - 0.10 1210 6.65 - 0.15 600 - 0.10	Tolerance 1/min rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Tolerance mm Rated speed rpm LOW IDLE control lever	: 1203 : + 8 : 4.00 : 1270 : + 15 : 0.75 : + 0.75 : 1400
Travel mm : Tolerance mm : + Rated speed rpm : guide sleeve travel mm : + Rated speed rpm : guide sleeve travel mm : + Rated speed rpm : guide sleeve travel mm : + Rated speed rpm : guide sleeve travel mm : +	1.70 - 0.10 1210 6.65 - 0.15 600 - 0.10 1150 6.25	Tolerance 1/min rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Tolerance mm Rated speed rpm LOW IDLE control lever position degree	: 1203 : + 8 : 4.00 : 1270 : + 15 : 0.75 : + 0.75 : 1400
Travel mm : Tolerance mm : + Rated speed rpm : guide sleeve travel mm : + Rated speed rpm : guide sleeve travel mm : + Rated speed rpm : guide sleeve travel mm : + Rated speed rpm : guide sleeve travel mm : +	1.70 - 0.10 1210 6.65 - 0.15 600 - 0.10	Tolerance 1/min rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Tolerance mm Rated speed rpm LOW IDLE control lever	: 1203 : + 8 : 4.00 : 1270 : + 15 : 0.75 : + 0.75 : 1400
Travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm **- Rated speed rpm guide sleeve travel mm Tolerance mm **- Rated speed rpm guide sleeve travel mm Tolerance mm **- **- **- **- **- **- **-	1.70 - 0.10 1210 6.65 - 0.15 600 - 0.10 1150 6.25 - 0.05	Tolerance 1/min rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Tolerance mm Rated speed rpm LOW IDLE control lever position degree tolerance degree	: 1203 : + 8 : 4.00 : 1270 : + 15 : 0.75 : + 0.75 : 1400
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rack travel mm	: 5.10	1			
I GCK CI GACC IMM			Anaroja praccije		
Talanaa ma	: + 0.10	T	Aneroid pressure	: 700	
Tolerance mm	: +- 0.10	Ť	hPa	700	
		†	Rated speed rpm	: 750	
rack travel mm	: 2.00	+	Del. quantity		
Rated speed rpm	: 390	+	cm3/1000 strokes	: 188.5	
Tolerance 1/min	: +- 25	1	cm3/1000 strokes		
TOTAL TIME		1	Check tolerance		
Dada d	. 200	Ţ	7/40000		
Rated speed rpm	: 200	†	cm3/1000s.	: +- 4.5	
		+	Spreed		
CRT mm min.	: > 7.10	+	cm3/1000 strokes		
		+	Check tolerance		
		 +	cm3/1000s.	: 12.0	
TORQUE CONTROL		1			
TOTAL CONTINUE		1	Aneroid pressure		
63	. 0.20	Т		_	
Dimension a mm	: 0.20	†	hPa	:	
Rated speed rpm	: 1150	+	Rated speed rpm	: 500	
rack travel mm Tolerance mm	: 11.55	+	Del. quantity		
Tolerance mm	; +- 0.05	1	cm3/1000 strokes	: 138.0	
		1	cm3/1000 strokes		
Detad anned ann	, 750	T	Check tolerance		
Rated speed rpm rack travel mm	. (30	†	uneuk Loterance		
rack travel mm	: 17.90	+	cm3/1000s.	: +- 4.0	
Tolerance mm	: ← 0.10	+	Spreed		
		+	cm3/1000 strokes	: 8.0	
			Check tolerance		
ANEROID/ALTITUDE		1	cm3/1000s.		
COMPENSATOR TEST		Ţ	UMD/ 10005.	. ,2.0	
COMPENSATOR TEST		Ť			
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SETTING		‡	OREANAWAT		
SETTING		-	OREANAWAT		
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Rated speed rpm Pressure hPa MEASUREMENT Pressure hPa Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: 410 : 500 : 0.35 : + 0.05 : 500 : 490	† † † † † † † †	Rack travel in mm Rated speed rpm Tolerance 1/min STARTING FUEL DEL: Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	: 1203 : + 8 IVERY : 100 : 150.0 : + 10.0	
Rated speed rpm Pressure hPa MEASUREMENT Pressure hPa Rated speed rpm rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm	: 410 : 500 : 0.35 : + 0.05 : 500 : 490 : 1.05	† † † † † † † † † † † † † † † † † † †	Rack travel in mm Rated speed rpm Tolerance 1/min STARTING FUEL DELI Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes	: 1203 : + 8 IVERY : 100 : 150.0 : + 10.0	
Rated speed rpm Pressure hPa MEASUREMENT Pressure hPa Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: 410 : 500 : 0.35 : + 0.05 : 500 : 490 : 1.05	† + + + + + + + + + + + + + + + + + + +	Rack travel in mm Rated speed rpm Tolerance 1/min STARTING FUEL DEL: Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	: 1203 : + 8 IVERY : 100 : 150.0 : + 10.0	
Rated speed rpm Pressure hPa MEASUREMENT Pressure hPa Rated speed rpm rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm	: 410 : 500 : 0.35 : + 0.05 : 500 : 490 : 1.05	† + + + + + + + + + + + + + + + + + + +	Rack travel in mm Rated speed rpm Tolerance 1/min STARTING FUEL DEL: Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	: 1203 : + 8 IVERY : 100 : 150.0 : + 10.0	
Rated speed rpm Pressure hPa MEASUREMENT Pressure hPa Rated speed rpm rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 410 : 500 : 0.35 : + 0.05 : 500 : 490 : 1.05	++++++++++++++++++++++++++++++++++++++	Rack travel in mm Rated speed rpm Tolerance 1/min STARTING FUEL DEL: Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	: 1203 : + 8 IVERY : 100 : 150.0 : + 10.0	
Rated speed rpm Pressure hPa MEASUREMENT Pressure hPa Rated speed rpm rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm	: 410 : 500 : 0.35 : + 0.05 : 500 : 490 : 1.05	+ + + + + + + + + + + + + + + + + + +	Rack travel in mm Rated speed rpm Tolerance 1/min STARTING FUEL DEL: Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	: 1203 : + 8 IVERY : 100 : 150.0 : + 10.0	
Rated speed rpm Pressure hPa MEASUREMENT Pressure hPa Rated speed rpm rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 410 : 500 : 0.35 : + 0.05 : 500 : 490 : 1.05	+ + + + + + + + + + + + + + + + + + +	Rack travel in mm Rated speed rpm Tolerance 1/min STARTING FUEL DEL: Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	: 1203 : + 8 IVERY : 100 : 150.0 : + 10.0	
Rated speed rpm Pressure hPa MEASUREMENT Pressure hPa Rated speed rpm rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm	: 410 : 500 : 0.35 : + 0.05 : 500 : 490 : 1.05 : + 0.15	++++++++++++++++++++++++++++++++++++++	Rack travel in mm Rated speed rpm Tolerance 1/min STARTING FUEL DELI Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: 1203 : + 8 IVERY : 100 : 150.0 : + 10.0	
Rated speed rpm Pressure hPa MEASUREMENT Pressure hPa Rated speed rpm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 410 : 500 : 0.35 : + 0.05 : 500 : 490 : 1.05 : + 0.15	++++++++++++++++++++++++++++++++++++++	Rack travel in mm Rated speed rpm Tolerance 1/min STARTING FUEL DELI Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000S.	: 1203 : + 8 IVERY : 100 : + 150.0 : + 14.0	
Rated speed rpm Pressure hPa MEASUREMENT Pressure hPa Rated speed rpm rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm	: 410 : 500 : 0.35 : + 0.05 : 500 : 490 : 1.05 : + 0.15		Rack travel in mm Rated speed rpm Tolerance 1/min STARTING FUEL DELI Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: 1203 : + 8 IVERY : 100 : + 150.0 : + 14.0	
Rated speed rpm Pressure hPa MEASUREMENT Pressure hPa Rated speed rpm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm START CUT-OUT Rated speed rpm Rated speed rpm	: 410 : 500 : 0.35 : + 0.05 : 500 : 490 : 1.05 : + 0.15		Rack travel in mm Rated speed rpm Tolerance 1/min STARTING FUEL DELI Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. LOW IDLE Rated speed rpm Del. quantity	: 1203 : + 8 IVERY : 100 : + 150.0 : + 14.0 : + 300	
Rated speed rpm Pressure hPa MEASUREMENT Pressure hPa Rated speed rpm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 410 : 500 : 0.35 : + 0.05 : 500 : 490 : 1.05 : + 0.15		Rack travel in mm Rated speed rpm Tolerance 1/min STARTING FUEL DELI Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. LOW IDLE Rated speed rpm Del. quantity cm3/1000 strokes	: 1203 : + 8 IVERY : 100 : + 150.0 : + 14.0 : + 14.0	
Rated speed rpm Pressure hPa MEASUREMENT Pressure hPa Rated speed rpm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm START CUT-OUT Rated speed rpm Rated speed rpm	: 410 : 500 : 0.35 : + 0.05 : 500 : 490 : 1.05 : + 0.15		Rack travel in mm Rated speed rpm Tolerance 1/min STARTING FUEL DELI Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. LOW IDLE Rated speed rpm Del. quantity	: 1203 : + 8 IVERY : 100 : + 150.0 : + 14.0 : + 14.0	
Rated speed rpm Pressure hPa MEASUREMENT Pressure hPa Rated speed rpm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm START CUT-OUT Rated speed rpm Rated speed rpm Check Speed 1/min	: 410 : 500 : 0.35 : + 0.05 : 500 : 490 : 1.05 : + 0.15		Rack travel in mm Rated speed rpm Tolerance 1/min STARTING FUEL DELI Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. LOW IDLE Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes	: 1203 : + 8 IVERY : 100 : + 150.0 : + 14.0 : + 14.0	
Rated speed rpm Pressure hPa MEASUREMENT Pressure hPa Rated speed rpm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm START CUT-OUT Rated speed rpm Rated speed rpm Check Speed 1/min Check	: 410 : 500 : 0.35 : + 0.05 : 500 : 490 : 1.05 : + 0.15 : > 100 : < 220 : > 80		Rack travel in mm Rated speed rpm Tolerance 1/min STARTING FUEL DELI Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. LOW IDLE Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes Check tolerance	: + 1203 : + 8 IVERY : 100 : + 10.0 : + 14.0 : 300 : + 4.0	
Rated speed rpm Pressure hPa MEASUREMENT Pressure hPa Rated speed rpm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm START CUT-OUT Rated speed rpm Rated speed rpm Check Speed 1/min	: 410 : 500 : 0.35 : + 0.05 : 500 : 490 : 1.05 : + 0.15		Rack travel in mm Rated speed rpm Tolerance 1/min STARTING FUEL DELI Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. LOW IDLE Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: 1203 : + 8 IVERY : 100 : + 150.0 : + 14.0 : + 14.0	
Rated speed rpm Pressure hPa MEASUREMENT Pressure hPa Rated speed rpm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm START CUT-OUT Rated speed rpm Rated speed rpm Check Speed 1/min Check	: 410 : 500 : 0.35 : + 0.05 : 500 : 490 : 1.05 : + 0.15 : > 100 : < 220 : > 80		Rack travel in mm Rated speed rpm Tolerance 1/min STARTING FUEL DELI Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000strokes cm3/1000strokes cm3/1000strokes cm3/1000strokes cm3/1000strokes Check tolerance cm3/1000s. Spreed	: + 1203 : + 8 IVERY : 100 : + 10.0 : + 14.0 : 300 : + 4.0 : + 7.0	
Rated speed rpm Pressure hPa MEASUREMENT Pressure hPa Rated speed rpm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm START CUT-OUT Rated speed rpm Rated speed rpm Check Speed 1/min Check	: 410 : 500 : 0.35 : + 0.05 : 500 : 490 : 1.05 : + 0.15 : > 100 : < 220 : > 80		Rack travel in mm Rated speed rpm Tolerance 1/min STARTING FUEL DELI Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000 strokes	: + 1203 : + 8 IVERY : 100 : + 10.0 : + 14.0 : 300 : + 4.0 : + 7.0	
Rated speed rpm Pressure hPa MEASUREMENT Pressure hPa Rated speed rpm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm START CUT-OUT Rated speed rpm Rated speed rpm Check Speed 1/min Check	: 410 : 500 : 0.35 : + 0.05 : 500 : 490 : 1.05 : + 0.15 : > 100 : < 220 : > 80 : < 240		Rack travel in mm Rated speed rpm Tolerance 1/min STARTING FUEL DELI Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000strokes cm3/1000strokes cm3/1000strokes cm3/1000strokes cm3/1000strokes Check tolerance cm3/1000s. Spreed	: + 1203 : + 8 IVERY : 100 : + 10.0 : + 14.0 : 300 : + 4.0 : + 7.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 29.11.96 Test oil : ISO 4113

Combination No. : 0 401 849 757

Injection pump

Pump designation : PE10P120A520/4LS3863

EP type number : 0 411 897 711

Governor

Governer design. : RQ300/900PA1230 Governer no. : 0 421 801 792

Cust. part No. :

Customer-spec. information Customer : DAEWOO : D2840LE Motor

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 : + 2.0 Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 100 Tolerance L/h : + 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.05 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 10-9-4-1-8

: - 7- 6- 3- 5 : - 2

Phasing : 0-45-72-117-144

: -189-216-261-288

: -333

Tolerance : +- 0.30

Check

tolerance "NW : +- 0.50

Start of delivery mark

Tolerance : +- 0.50

Check

: +- 0.75 tolerance *NW

Barret no. : 10

BASIC SETTING

Rated speed rpm : 850

Rack travel in mm: 12.90 Tolerance mm: + 0.05	Rated speed rpm : 510 guide sleeve travel mm : 6.00
Del. quantity	Tolerance mm : + 0.10
cm3/1000 strokes : 208.0	Rated speed rpm : 1050 guide sleeve
cm3/1000 strokes : + 1.0	travel mm : 11.50
Check tolerance	Tolerance mm : + 0.50
cm3/1000s. : + 4.0	GUIDE SLEEVE POSITION
Spreed cm3/1000 strokes : 6.0	Rated speed rpm : 600
Check tolerance cm3/1000s. : 10.0	Rack travel in mm : 20.00 Tolerance mm : + 0.80
Rated speed rpm : 300	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm: 7.00 +	Rated speed rpm : 850
Tolerance mm : + 0.10	Aneroid pressure
Del. quantity + cm3/1000 strokes : 24.0 +	hPa : - Del. quantity
cm3/1000 strokes : + 3.0 +	cm3/1000 strokes : 208.0
Check tolerance + 6.0 +	cm3/1000 strokes : +- 1.0 Check tolerance
Spreed	cm3/1000s. : + 4.0
cm3/1000 strokes : 7.0 +	Spreed cm3/1000 strokes : 6.0
cm3/1000s. : 11.0	Check tolerance cm3/1000s. : 10.0
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR	CONTROL LEVER
GUIDE SLEEVE TRAVEL	control lever
Rated speed rpm : 300	position degree : 32.0 tolerance degree : +- 4.0
guide sleeve	•
travel mm : 1.44 + Tolerance mm : + 0.10	control lever position degree : 94.0
+	tolerance degree : +- 4.0
Rated speed rpm : 932 + guide sleeve + +	RATED SPEED
travel mm : 6.37	70 A 10 A
Tolerance mm : + 0.10	rack travel mm : 11.90 Rated speed rpm : 900
Rated speed rpm : 880 guide sleeve	Tolerance 1/min : +- 5
travel mm : 6.00 +	rack travel mm : 400
Tolerance mm : +- 0.10	Rated speed rpm : 950 Tolerance 1/min : +- 15
Rated speed rpm : 433	
guide steeve + travel mm : 4.94 +	rack travel mm : 0.50 Tolerance mm : +- 0.50
Tolerance mm : + 0.10	Rated speed rpm : 1100
т	

LOW IDLE

control lever position degree : 74.0 tolerance degree : + 4.0

control lever

position degree : 12.0 tolerance degree : + 4.0

Testing:

Rated speed rpm : 300 rack travel mm : 7.00 : **←** 0.10 Tolerance mm

rack travel mm : 2.00 Rated speed rpm : 415 Tolerance 1/min : + 20

Rated speed rpm : 200

CRT mm min. : > 9.40

TORQUE CONTROL

Rated speed rpm : 850 rack travel mm : 12.90 Tolerance mm : + 0.05

Rated speed rpm : 650 rack travel mm : 12.90 Tolerance mm : +- 0.10

START CUT-OUT

Rated speed rpm : > 100 Rated speed rpm : < 220

Check

speed 1/min : > 80 Check speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa Rated speed rpm : 650 Del. quantity

cm3/1000 strokes : 212.0 cm3/1000 strokes : +- 3.0

Check tolerance cm3/1000s. : +- 6.0

BREAKAWAY

Rack travel in mm : 11.90
Rated speed rpm : 900
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Del. quantity

cm3/1000 strokes : 200.0 cm3/1000 strokes : \leftarrow 20.0

Check tolerance

cm3/1000s : \leftarrow 24.0

LOW IDLE

Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 2 cm3/1000 strokes : +-24.0 3.0 Check tolerance : +- 6.0 cm3/1000s. Spreed cm3/1000 strokes : 7.0 Check tolerance : 11.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 02.12.96 Test oil : ISO 4113

Combination No. : 0 402 646 626

Injection pump

Pump designation : PE6P120A320RS7299 EP type number : 0 412 626 885

Governor

Governer design. : RQV275...1000PA1076K

Governer no. : 0 421 815 357

Cust. part No. : 1280160

Customer-spec. information

Customer : DAF
Motor : WS 268 M
Power KW : 268.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. *C : 40
Tolerance *C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 160
Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.85 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance *NW : + 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 980

ack travel in mm : 13 55

Rack travel in mm: 13.55
Tolerance mm: + 0.05

Del. quantity cm3/1000 strokes : 250

cm3/1000 strokes : 250.0

MO3

cm3/1000 strokes : +-	1.0	guide sleeve travel mm	: 3.79
Check tolerance cm3/1000s. : +-	4.0		: + 0.25
Spreed		Rated speed rpm guide sleeve	: 1310
cm3/1000 strokes :	5.0	travel mm	: 13.50 : +- 0.50
Check tolerance	+		
cm3/1000s. :	9.0	CHINE CLEENE DOCTE	701
Rated speed rpm : 2	275	GUIDE SLEEVE POSIT	TOM
Table space (pill	1	Rated speed rpm	: 1130
Rack travel in mm :	4.80	Rack travel in man	: 12.60
Tolerance mm : +-	0.10	Tolerance mm	: 1.30
Del. quantity cm3/1000 strokes :	17.0		
cm3/1000 strokes : +-		FULL LOAD DELIVERY	AT FULL LOAD STOP
Check tolerance	1	FOLL COMP PLETICAT	AT TOLL LOAD OTO
cm3/1000s. : +-	6.0		: 980
Spreed	+	Aneroid pressure	
cm3/1000 strokes :	8.0	hPa	-
Check tolerance cm3/1000s. :	12.0	Del. quantity cm3/1000 strokes	: 250.0
	+		: + 1.0
	+	Check tolerance	
(B) SETTING OF INJECTION	N PUMP +		: +- 4.0
WITH GOVERNOR	1	Spreed cm3/1000 strokes	: 5.0
	I	Check tolerance	; J.U
GUIDE SLEEVE TRAVEL	‡		9.0
Rated speed rpm : 2	275		
guide sleeve	+	AANTONI I EVED	
	2.14 +	CONTROL LEVER	
roterance man	Ţ.	control lever	
Rated speed rpm : 10	145	position degree	: 120.0
guide sleeve	+	tolerance degree	: +- 4.0
	9.82	DATEN COEEN	
Tolerance mm : +-	Ţ	RATED SPEED	
Rated speed rpm : 6	589 	rack travel mm :	12.55
guide sleeve	+	Rated speed rpm	: 1042 _
travel mm :		Tolerance 1/min	: +- 5
Tolerance mm : +-	1 · · · · · · · · · · · · · · · · · · ·	rack travel mm :	4.00
Rated speed rpm : 2	284	Rated speed rpm	
guide steeve	+	Tolerance 1/min	+ 15
	2.27		0.70
Tolerance mm : +-		rack travel mm : Tolerance mm :	
Rated speed rpm : 3	34 I	Rated speed rpm :	1275
guide sleeve	+		
	7 47		
	3.17		
Tolerance mm : +-	0.25	LOW IDLE	

control lever position degree tolerance degree	: 76.0 : +- 4.0	rack travel mm : 12.25 Tolerance mm : + 0.05 Pressure hPa : 360 rack travel mm : 9.80 Tolerance mm : + 0.10
Testing:		Tolerance mm : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 275 : 4.80 : ← 0.10	FUEL DELIVERY CHARACTERISTICS
rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm	: + 20	+
CRT mm min.		cm3/1000 strokes : 268.0 cm3/1000 strokes : +- 2.0 Check tolerance
TORQUE CONTROL		
Rated speed rpm rack travel mm Tolerance mm	: 13.55	Check tolerance cm3/1000s. : 12.0
Rated speed rpm rack travel mm Tolerance mm	: 750 : 13.25 : ← 0.05	Aneroid pressure hPa : - Rated speed rpm : 750 Del. quantity cm3/1000 strokes : 268.0 cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 5.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 Aneroid pressure hPa : - Rated speed rpm : 600 Del. quantity cm3/1000 strokes : 154.0 cm3/1000 strokes : 154.0 cm3/1000 strokes : + 1.0 Check tolerance
Rated speed rpm rack travel mm Tolerance mm	: 600 : 12.50 : ← 0.10	- cm3/1000 strokes : 154.0 - cm3/1000 strokes : + 1.0 - Check tolerance - cm3/1000S. : + 4.0
Rated speed rpm rack travel mm Tolerance mm	: 500 : 12.00 : + 0.10	BREAKAWAY
ANEROID/ALTITUDE COMPENSATOR TEST		Rack travel in mm : 12.55 Rated speed rpm : 1042 Tolerance 1/min : + 5
SETTING		<u> </u>
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 980 : 1500 : 13.55 : ← 0.05	LOW IDLE Rated speed rpm : 275
MEASUREMENT		Del. quantity cm3/1000 strokes : 17.0
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 980 : 8.60 : ← 0.10	cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000S. : +- 6.0 Spreed
Rated speed rpm	: 980	cm3/1000 strokes : 8.0 Check tolerance
Pressure hPa	: 720	- cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 03.12.96 Test oil : ISO 4113

Combination No. : 0 402 646 671

Injection pump

Pump designation : PE6P12DA32DRS7421 EP type number : 0 412 626 956

Governor

Governer design. : RQV275...1150PA1297K

Governer no. : 0 421 815 524

Cust. part No. : 1316184/1

Customer—spec. information Customer : DAF Motor : PF 205 M

Power KW : 205.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Overflow quantity

min. l/h : 160 Tolerance l/h : ← 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.85
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance *NW : +- 0.50

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1130

Rack travel in mm : 12.10 Tolerance mm : + 0.05

M07

		+ Tolerance mm : + 0.50
Del. quantity cm3/1000 strokes	: 207.0	<u> </u>
cm3/1000 strokes	: + 1.0	+ GUIDE SLEEVE POSITION
Check tolerance		+ Rated speed rpm : 1329
cm3/1000s.	: + 4.0	Rack travel in mm : 11.10 Tolerance mm : + 2.70
Spreed cm3/1000 strokes	: 5.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance cm3/1000s.	: 9.0	Rated speed rpm : 1130 Aneroid pressure
Rated speed rpm	: 275	+ hPa : 1500 - Del. quantity
		+ cm3/1000 strokes : 207.0
Rack travel in m		+ cm3/1000 strokes : + 1.0
Tolerance mm	: - 0.10	† Check tolerance
Del. quantity	. 44.0	+ cm3/1000s. : + 4.0
cm3/1000 strokes		+ Spreed + cm3/1000 strokes : 5.0
Check tolerance	3.0	+ Check tolerance
cm3/1000s. Spreed	: + 6.0	cm3/1000s. : 9.0
cm3/1000 strokes	: 8.0	+
Check tolerance		
cm3/1000s.	: 12.0	+ CONTROL LEVER
(B) SETTING OF IN	NUECTION PUMP	control lever position degree : 118.0
WITH GOVERNOR	•	tolerance degree : +- 4.0
GUIDE SLEEVE TRAN	/FI	RATED SPEED
GOIDE SECENE WAY	/ L L	T
Rated speed rpm		+ rack travel mm : 11.10
Rated Speed (Din	: 275	+ rack travel mm : 11.10 + Rated speed rpm : 1195
guide sleeve	-	
	: 1.71	Rated speed rpm : 1195 Tolerance 1/min : + 5
guide sleeve	-	Rated speed rpm : 1195
guide sleeve travel mm Tolerance mm Rated speed rpm	: 1.71	Rated speed rpm : 1195 Tolerance 1/min : + 5 rack travel mm : 4.00
guide sleeve travel mm Tolerance mm	: 1.71 : + 0.20	Rated speed rpm : 1195 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1300
guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1.71 : + 0.20 : 1206 : 10.12 : + 0.15	Rated speed rpm : 1195 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1300 Tolerance 1/min : + 15
guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 1.71 : + 0.20 : 1206 : 10.12 : + 0.15 : 813	Rated speed rpm : 1195 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1300 Tolerance 1/min : + 15 rack travel mm : 0.70 Tolerance mm : + 0.70
guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: 1.71 : + 0.20 : 1206 : 10.12 : + 0.15 : 813 : 6.81	Rated speed rpm : 1195 Tolerance 1/min : ← 5 rack travel mm : 4.00 Rated speed rpm : 1300 Tolerance 1/min : ← 15 rack travel mm : 0.70 Tolerance mm : ← 0.70 Rated speed rpm : 1400
guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 1.71 : + 0.20 : 1206 : 10.12 : + 0.15 : 813	Rated speed rpm : 1195 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1300 Tolerance 1/min : + 15 rack travel mm : 0.70 Tolerance mm : + 0.70
guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm Rated speed rpm Rated speed rpm	: 1.71 : + 0.20 : 1206 : 10.12 : + 0.15 : 813 : 6.81	Rated speed rpm : 1195 Tolerance 1/min : ← 5 rack travel mm : 4.00 Rated speed rpm : 1300 Tolerance 1/min : ← 15 rack travel mm : 0.70 Tolerance mm : ← 0.70 Rated speed rpm : 1400
guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1.71 : + 0.20 : 1206 : 10.12 : + 0.15 : 813 : 6.81 : + 0.25	Rated speed rpm : 1195 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1300 Tolerance 1/min : + 15 rack travel mm : 0.70 Tolerance mm : + 0.70 Rated speed rpm : 1400 LOW IDLE
guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1.71 : + 0.20 : 1206 : 10.12 : + 0.15 : 813 : 6.81 : + 0.25 : 450	Rated speed rpm : 1195 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1300 Tolerance 1/min : + 15 rack travel mm : 0.70 Tolerance mm : + 0.70 Rated speed rpm : 1400 LOW IDLE control lever
guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1.71 : + 0.20 : 1206 : 10.12 : + 0.15 : 813 : 6.81 : + 0.25 : 450 : 3.85	Rated speed rpm : 1195 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1300 Tolerance 1/min : + 15 rack travel mm : 0.70 Tolerance mm : + 0.70 Rated speed rpm : 1400 LOW IDLE control lever position degree : 71.0

rack travel mm Tolerance mm	: 4.90 : ← 0.10	+
Dadad annad ann	: 175	‡ .
Rated speed rpm	; 115	Ī
CRT mm min.	: > 7.50	+ 1
Rated speed rpm	: 350	‡ :
		+
TORQUE CONTROL		<u> </u>
Rated speed rpm	: 1130	Į
rack travel mm	: 12.10	+
Tolerance mm	: ← 0.05	† :
Dated speed spe	: 1000	†
Rated speed rpm rack travel mm	• 12 15	Į į
Tolerance mm	: 12.15 : + 0.10	Į
TO COLONIUS HIR	. · 0.10	Ţ
Rated speed rpm	: 850	1
rack travel mm	: 12.35	1
Tolerance mm	: +- 0.10	+ :
		+ (
Rated speed rpm		+ 1
rack travel mm	: 12.25	+ (
Tolerance mm	: + 0.10	‡,
Rated speed rpm	: 650	I i
rack travel mm	: 11.50	↓ i
Tolerance mm	: + 0.10	+ 1
		+ (
Rated speed rpm	: 500	+ •
rack travel mm	: 10.85	+ 1
Tolerance mm	: ← 0.10	+ :
Rated speed rpm	: 1150	‡ 3
rack travel mm		Į į
Tolerance mm		+ 1
		† .
ANEROID/ALTITUDE		I
COMPENSATOR TEST		+
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Rated speed rpm	: 875	I '
Pressure hPa	: 1500	1
rack travel mm	: 12.35	+
Tolerance mm	: ← 0.10	+
MEASUREMENT		‡ .
		+ 1
Pressure hPa	. 675	t,
Rated speed rpm	: 875 : 8.00	+ F
rack travel mm Folerance mm	: 8.00 : +- 0.10	7 6
Official Inc. util		1 6
Rated speed rpm	: 875	,

Pressure rack trav	
+ rack trav	
T I GUN LIGHT	el mm : 11.35
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+ Tolerance	mm : +- 0.05
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	LD- 450
+ Pressure	
+ rack trave	elmm: 9.20
+ Tolerance	mm : +- 0.10
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+ FUEL DELI'	VERY CHARACTERISTICS
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-7/4000	atrakas s 374 C
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Τ	
+ Aneroid p	ressure
+ hPa	
	•
+ Rated spec	ed rpm : 600
+ Del. quant	
+ cm3/1000 s	strokes : 138.0
+ cm3/1000 s	
+ Check tole	erance
+ cm3/1000s	· + 4.0
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cm3/1000 s Check tole cm3/1000s	erance . : 12.0
cm3/1000 s Check tole cm3/1000s	erance
cm3/1000 s Check tolo cm3/1000s BREAKAWAY Rack trave	erance : 12.0 el in mm : 11.10
cm3/1000 s Check tolo cm3/1000s BREAKAWAY Rack trave Rated spec	erance : 12.0 el in mm : 11.10 ed rpm : 1195
cm3/1000 s Check tolo cm3/1000s BREAKAWAY Rack trave	erance : 12.0 el in mm : 11.10 ed rpm : 1195
cm3/1000 s Check tolo cm3/1000s BREAKAWAY Rack trave Rated spec	erance : 12.0 el in mm : 11.10 ed rpm : 1195
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Cm3/1000 s Check tole cm3/1000s BREAKAWAY Rack trave Rated spec Tolerance	el in mm: 11.10 el in mm: 11.10 ed rpm: 1195 1/min: + 5
Cm3/1000 s Check tole cm3/1000s BREAKAWAY Rack trave Rated spec Tolerance	el in mm: 11.10 el in mm: 11.10 ed rpm: 1195 1/min: + 5
Cm3/1000 s Check tole cm3/1000s BREAKAWAY Rack trave Rated spec Tolerance	el in mm : 11.10 el in mm : 11.10 ed rpm : 1195 1/min : + 5
Cm3/1000 s Check tole cm3/1000s BREAKAWAY Rack trave Rated spec Tolerance	el in mm : 11.10 el in mm : 11.10 ed rpm : 1195 1/min : + 5
Cm3/1000 s Check tole cm3/1000s BREAKAWAY Rack trave Rated spec Tolerance	el in mm: 11.10 el in mm: 11.10 ed rpm: 1195 1/min: +- 5 ed rpm: 275 tity strokes: 16.0
Cm3/1000 s Check tole cm3/1000s BREAKAWAY Rack trave Rated spec Tolerance	el in mm: 11.10 el in mm: 11.10 ed rpm: 1195 1/min: +- 5 ed rpm: 275 tity strokes: 16.0
Cm3/1000 s Check tolo cm3/1000s BREAKAWAY Rack trave Rated spec Tolerance LOW IDLE Rated spec Del. quant	el in mm: 11.10 el in mm: 11.10 ed rpm: 1195 1/min: +- 5 ed rpm: 275 tity strokes: 16.0
Cm3/1000 s Check tole cm3/1000s BREAKAWAY Rack trave Rated spec Tolerance	el in mm: 11.10 el in mm: 11.10 ed rpm: 1195 1/min: +- 5 ed rpm: 275 tity strokes: 16.0

Check tolerance cm3/1000s. : + 6.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 03.12.96 Test oil : ISO 4113

Combination No. : 0 402 646 672

Injection pump

Pump designation : PE6P12OA32ORS7421 EP type number : 0 412 626 956

Governor

Governer design. : RQV275...1150PA1298K

Governer no. : 0 421 815 525

Cust. part No. : 1316185/1

Customer—spec. information
Customer : DAF
Motor : PF 183 M
Power KW : 183.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 150 Tolerance l/h : ← 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.85
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300 Tolerance : +- 0.30

Check

tolerance "NW : +- 0.50

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1130

Rack travel in mm: 10.80

Tolerance mm : + 0.10

Del. quantity	
cm3/1000 strokes	: 184.0
cm3/1000 strokes	: + 1.0
CID/ 1000 STICKES	
Charle Antonome	
Check tolerance	
cm3/1000s.	: +- 4.0
Spreed	
cm3/1000 strokes	: 5.0
Check tolerance	
cm3/1000s.	: 9.0
CAIS7 10003.	. 7.0
Data danced and	: 275
Rated speed rpm	: 275
Rack travel in m	n: 4.90
Tolerance mm	: +- 0.10
Del. quantity	
cm3/1000 strokes	: 16.0
cm3/1000 strokes	
Check tolerance	3.0
	: + 6.0
cm3/1000s.	: 0.0
Spreed	2.2
- 14000 · I	: 8.0
cm3/1000 strokes	
Check tolerance	
Check tolerance cm3/1000s. (B) SETTING OF IN	: 12.0 NJECTION PUMP
Check tolerance cm3/1000s.	
Check tolerance cm3/1000s. (B) SETTING OF IN	NJECTION PUMP
Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAV	NJECTION PUMP
Check tolerance cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVERSE Rated speed rpm	NJECTION PUMP
Check tolerance cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVERSE TRAVERSE Speed rpm guide sleeve	VEL: 275
Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAVER Rated speed rpm guide sleeve travel mm	VIECTION PUMP VEL : 275 : 1.71
Check tolerance cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVERSE TRAVERSE Speed rpm guide sleeve	VEL: 275
Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAVERS TRAV	**************************************
Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAVERS Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm	**************************************
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Check tolerance cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVERS At the speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm Rated speed rpm Rated speed rpm	**************************************
Check tolerance cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVERATED	**************************************
Check tolerance cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVERS At the speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm Rated speed rpm Rated speed rpm	**************************************
Check tolerance cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVER Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	**************************************
Check tolerance cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVERS At the speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	**************************************
Check tolerance cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVER Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm Tolerance mm	**************************************
Check tolerance cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVER Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	**************************************
Check tolerance cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVER Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	HECTION PUMP /EL : 275 : 1.71 : + 0.20 : 1200 : 10.06 : + 0.15 : 811 : 6.79 : + 0.25 : 450
Check tolerance cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVER Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	**************************************
Check tolerance cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVER Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	HECTION PUMP /EL : 275 : 1.71 : + 0.20 : 1200 : 10.06 : + 0.15 : 811 : 6.79 : + 0.25 : 450
Check tolerance cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVERATED	## DECTION PUMP ##################################
Check tolerance cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVERATED	## DECTION PUMP ##################################
Check tolerance cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVERATED	**************************************
Check tolerance cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVERATED	## DECTION PUMP ##################################

Tolerance mm	: ← 0.50
GUIDE SLEEVE POSI	TION
Rated speed rpm	: 1343
Rack travel in man Tolerance man	9.80 : +- 2.70
FULL LOAD DELIVER	Y AT FULL LOAD STOP
Rated speed rpm	: 1130
Aneroid pressure hPa	: 1500
Del. quantity cm3/1000 strokes	
cm3/1000 strokes Check tolerance	: +- 1.0
cm3/1000s. Spreed	: +- 4.0
cm3/1000 strokes	: 5.0
Check tolerance cm3/1000s.	: 9.0
CONTROL LEVER	
control lever position degree tolerance degree	: 117.0 : + 4.0
RATED SPEED	
rack travel mm	: 9.80
Rated speed rpm Tolerance 1/min	: 1190 : +- 5
rack travel mm	: 4.00
Rated speed rpm Tolerance 1/min	: 1285 : +- 15
rack travel mm	: 0.70 : + 0.70
Tolerance mm Rated speed rpm	: +- 0.70 : 1450
LOW IDLE	
control lever position degree tolerance degree	: 72.0 : + 4.0
Testing:	
Rated speed rpm	: 275

rack travel mm : 4.90 Tolerance mm : + 0.10 Rated speed rpm : 175 CRT mm min. :> 7.50Rated speed rpm : 325 TORQUE CONTROL Rated speed rpm : 1130 rack travel mm : 10.80 Tolerance mm : + 0.10 Rated speed rpm : 1000 rack travel mm : 10.90 Tolerance mm : + 0.10 Rated speed rpm : 850 rack travel mm : 11.05 Tolerance mm : ← 0.05 Rated speed rpm : 800 rack travel mm : 10.90 Tolerance mm : + 0.10 Rated speed rpm : 650 rack travel mm : 10.10 Tolerance mm : + 0.10 Rated speed rpm : 500 rack travel mm : 9.35 Tolerance mm : + 0.10 Rated speed rpm : 1150 rack travel mm : 10.80 Tolerance mm : + 0.10 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 875
Pressure hPa : 1500
rack travel mm : 11.10
Tolerance mm : + 0.10

Pressure hPa : 350 rack travel mm : 10.20 Tolerance mm : + 0.05Pressure hPa : 130 rack travel mm : 8.40 Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1500 Rated speed rpm : 850 Del. quantity cm3/1000 strokes : 206.0 cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : +- 5.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 Aneroid pressure hPa Rated speed rpm : 600 Del. quantity cm3/1000 strokes : 138.0 cm3/1000 strokes : + 1.0 Check tolerance : +- 4.0 cm3/1000s. Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0

BREAKAWAY

Rack travel in mm: 9.80
Rated speed rpm: 1190
Tolerance 1/min: +- 5

LOW IDLE

Rated speed rpm : 275
Del. quantity
cm3/1000 strokes : 16

cm3/1000 strokes : 16.0 cm3/1000 strokes : + 3.0

MEASUREMENT

Pressure hPa :

Rated speed rpm : 875
rack travel mm : 8.00
Tolerance mm : + 0.10

Rated speed rpm : 875

Check tolerance cm3/1000s. : + 6.0

Spreed

cm3/1000 strokes : 8.0

Check tolerance cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 04.12.96 Edition : ISO 4113 Test oil

Combination No. : 0 402 648 780

Injection pump

Pump designation : PE8P120A320LS7871 EP type number : 0 412 628 877

Governor

Governer design. : RQV300...1050PA1078

: -2K

Governer no. : 0 421 815 548

Cust. part No. : 988 04 47

Customer-spec. information Customer : LIEBHERR : D 9408 TI-EA3 Motor

Power KW : 420.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

40 temp. °C Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar $: \leftarrow 1.5$

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

: 3.65 Prestroke mm : +- 0.05 Tolerance mm Check

: +- 0.10 tolerance mm

Rack travel in mm: 10.50 Toterance mm : + 1.50

Firing order : 1-8-7-2-6 : - 3- 5- 4

: 0-45-90-135-180 Phasing

: -225-270-315 Tolerance : +- 0.30

Check

tolerance *NW : +- 0.50

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 12.65 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 295.0

cm3/1000 strokes : + 1.0

Check tolerance : +- 4.0 cm3/1000s.

Spreed

cm3/1000 strokes : 5.0

Check tolerance cm3/1000s.	9.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm :	: 350	Rated speed rpm : 1050 Aneroid pressure
Rack travel in mm : Tolerance mm : Del. quantity cm3/1000 strokes :	: +- 0.10 +	hPa : 1600 Del. quantity cm3/1000 strokes : 295.0 cm3/1000 strokes : +- 1.0 Check tolerance
cm3/1000 strokes : Check tolerance	+	cm3/1000s. : +- 4.0 Spreed
Spreed	+ 6.0	cm3/1000 strokes : 5.0 Check tolerance
cm3/1000 strokes : Check tolerance	+	cm3/1000s. : 9.0
cm3/1000s. :	10.0	CONTROL LEVER
(B) SETTING OF INJE	ECTION PUMP	control lever position degree : 119.0 tolerance degree : +- 4.0
GUIDE SLEEVE TRAVEL	-	RATED SPEED
Rated speed rpm : guide sleeve travel mm : Tolerance mm :	1.11 + 0.20	rack travel mm : 11.65 Rated speed rpm : 1120 Tolerance 1/min : +- 5
Rated speed rpm : guide sleeve travel mm : Tolerance mm :	1117 10.27 + 0.15	rack travel mm : 4.00 Rated speed rpm : 1190 Tolerance 1/min : + 15
Rated speed rpm : guide sleeve travel mm :	755 6.17	rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1255
	+ 0.25 480	LOW IDLE
guide sleeve travel mm :	3.75	
	+ 0.25	control lever position degree : 71.0 tolerance degree : +- 4.0
guide sleeve	13.50	Testing:
Tolerance mm :	+ 0.50	Rated speed rpm : 350
GUIDE SLEEVE POSITI	on ‡	rack travel mm : 4.55 Tolerance mm : + 0.10
Rated speed rpm :	1182	Rated speed rpm : 300
Rack travel in mm : Tolerance mm :		CRT mm min. : > 7.10
	‡	Rated speed rpm : 450

		+ Rated speed rpm : 500
TORQUE CONTROL		Del. quantity cm3/1000 strokes : 276.0 cm3/1000 strokes : + 3.0
Rated speed rpm rack travel mm Tolerance mm	: 12.65	Check tolerance - cm3/1000s. : + 6.0
Rated speed rpm rack travel mm Tolerance mm	: 500 : 10.05	+ Aneroid pressure + hPa : 1600 + Rated speed rpm : 800 + Del. quantity
Rated speed rpm rack travel mm Tolerance mm	: 11.75	cm3/1000 strokes : 299.0 cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0
Rated speed rpm rack travel mm Tolerance mm	: 950	Aneroid pressure hPa : - Rated speed rpm : 500
Rated speed rpm rack travel mm Tolerance mm	: 600 : 10.75	 Del. quantity cm3/1000 strokes : 209.0 cm3/1000 strokes : + 1.0 Check tolerance
ANEROID/ALTITUDE COMPENSATOR TEST		
SETTING		cm3/1000s. : 12.0
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1600 : 12.65	BREAKAWAY Rack travel in mm: 11.65 Rated speed rpm: 1120 Tolerance 1/min: + 5
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: 8.35	STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 9.50
Rated speed rpm	: 1050	Tolerance mm : + 0.20
Pressure hPa rack travel mm Tolerance mm	: 11.80	cm3/1000 strokes : 150.0 cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 14.0
Pressure hPa rack travel mm Tolerance mm	: 9.40	
		LOW IDLE
FUEL DELIVERY CHA	ARACTERISTICS	Rated speed rpm : 350 Del. quantity
Aneroid pressure hPa	: 1600	cm3/1000 strokes : 15.0 cm3/1000 strokes : +- 3.0

Check tolerance cm3/1000S. : +- 6.0 Spreed cm3/1000 strokes : 6.0

Check tolerance cm3/1000s. : 10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 04.12.96 Test oil : ISO 4113

Combination No. : 0 402 648 780A

Injection pump

Pump designation : PE8P120A320LS7871 EP type number : 0 412 628 877

Governor

Governer design. : RQV300...1050PA1078

: -2K

Governer no. : 0 421 815 548

Cust. part No. : 988 04 47

Customer—spec. information Customer : LIEBHERR

Motor : D 9408 TI-EA3

Power KW : 420.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.65
Tolerance mm : + 0.05
Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-8-7-2-6 :-3-5-4

Phasing : 0-45-90-135-180

: -225-270-315 Tolerance : + 0.30

Check

tolerance °NW : + 0.50

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.65
Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 295.0

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. : +- 4.0

Spreed

cm3/1000 strokes : 5.0

		Ť	
Check tolerance cm3/1000s.	: 9.0	FULL LOAD DELIVERY AT FULL LOAD STOP	
		+	
Rated speed rpm	: 350	+ Rated speed rpm : 1050 + Aneroid pressure	
		hPa : 1600	
Rack travel in mr	n: 4.55	Del. quantity	
Tolerance mm	: +- 0.10	+ cm3/1000 strokes : 295.0	
Del. quantity	45.0	+ cm3/1000 strokes : + 1.0	
cm3/1000 strokes cm3/1000 strokes		+ Check tolerance + cm3/1000s. : +- 4.0	
Check tolerance	5.0	+ Spreed	
cm3/1000s.	: ← 6.0	- cm3/1000 strokes : 5.0	
Spreed		+ Check tolerance	
cm3/1000 strokes	: 6.0	+ cm3/1000s. : 9.0	
Check tolerance cm3/1000s.	: 10.0	İ	
(1107 10003.	. 10.0		
		CONTROL LEVER	
(B) SETTING OF IN	WECTION PUMP	†	
WITH GOVERNOR		+ control lever + position degree : 119.0	
		tolerance degree : +- 4.0	
GUIDE SLEEVE TRAN	ÆL	+	
- · ·		+ RATED SPEED	
Rated speed rpm	: 300	† rack travel mm : 11.65	
guide sleeve travel mm	: 1.11	+ Rated speed rpm : 1120	
Tolerance mm	: +- 0.20	+ Tolerance 1/min : + 5	
		+	
Rated speed rpm	: 1117	+ rack travel mm : 4.00	
guide sleeve travel mm	: 10.27	+ Rated speed rpm : 1190 + Tolerance 1/min : + 15	
Tolerance nm		Toterance min . +- 15	
TO COT GITTO THE		rack travel mm : 0.50	
Rated speed rpm	: 755	Tolerance mm : + 0.50	
guide sleeve		+ Rated speed rpm : 1255	
travel mm Tolerance mm	: 6.17 : + 0.25	İ	
TO CE PARTICE THAT	. +- 0.25		
Rated speed rpm	: 480	LOW IDLE	
guide sleeve		+	
travel mm	: 3.75	+ control lever	
Tolerance mm	: +- 0.25	+ control lever + position degree : 71.0	
Rated speed rpm	: 1330	tolerance degree : + 4.0	
guide sleeve		+	
travel mm	: 13.50	† Testing:	
Tolerance mm	: ← 0.50	+ Rated speed rpm : 350	
		+ Rated speed rpm : 350 + rack travel mm : 4.55	
GUIDE SLEEVE POSI	TION	+ Tolerance mm : + 0.10	
		+	
Rated speed rpm	: 1182	Rated speed rpm : 300	
Rack travel in mm	. 12 48	+ CRT mm min. : > 7.10	
Tolerance mm		-	
	· · · · · · · · · · · · · · · · · · ·	Rated speed rpm : 450	
		+	

		+ Rated speed rpm : 500
TORQUE CONTROL		Del. quantity cm3/1000 strokes : 276.0
		+ cm3/1000 strokes : +- 3.0
Rated speed rpm	: 1050	+ Check tolerance
rack travel mm		+ cm3/1000s. : + 6.0
Tolerance mm	: +- 0.05	Amenaid accesses
Rated speed rpm	500	+ Aneroid pressure + hPa : 1600
rack travel mm	: 500 : 10.05	+ nPa : 7600 + Rated speed rpm : 800
rack travel mm Tolerance mm	: + 0.10) Dol gupptity
		+ cm3/1000 strokes : 299.0
Rated speed rpm	: 800	+ cm3/1000 strokes : + 3.0
rack travel mm Tolerance mm	: 11.75 : + 0.10	theck tolerance cm3/1000s. : +- 6.0
loterance mm	; — 0.10	T CM5/10005. : 0.0
Rated speed rpm	: 950	Aneroid pressure
Rated speed rpm rack travel mm Tolerance mm	: 12.20	+ hPa : -
Tolerance mm	: ← 0.10	Rated speed rpm : 500
Bahad apand men	. 400	+ Del. quantity + cm3/1000 strokes : 209.0
Rated speed rpm	· 10 75	+ cm3/1000 strokes : 209.0 + cm3/1000 strokes : +- 1.0
rack travel mm Tolerance mm	· + 0.10	+ Check tolerance
2 18 W 18 W	- · · · · ·	+ cm3/1000s. : +- 4.0
		Spreed
ANEROID/ALTITUDE		+ cm3/1000 strokes : 8.0
COMPENSATOR TEST		+ Check tolerance + cm3/1000s. : 12.0
		T (m5/10003. : 12.0
SETTING		
		BREAKAWAY
Rated speed rpm	: 1050	+
Pressure hPa		Paul traval in the AA (F
rack travel mm Tolerance mm		Rack travel in mm : 11.65 Rated speed rpm : 1120
TOTEL GLICE HEN	. — 0.05	Tolerance 1/min : +- 5
MEASUREMENT		+
		†
Pressure hPa	: -	OTTOTALO PUEL ACITUDA
Rated speed rpm		T STARTING FUEL DELIVERY
rack travel mm Tolerance mm	: 8.35 : + 0.10	T Rated speed rpm : 100
	.	rack travel mm : 9.50
Rated speed rpm	: 1050	Tolerance mm : + 0.20
	4050	Del. quantity
Pressure hPa	: 1050 : 11.80	
rack travel mm Tolerance mm	: +- 0.05	Check tolerance
IOCE GIVE (IRI	0.05	cm3/1000s. : + 14.0
Pressure hPa	: 700	+
rack travel mm	: 9.40	+
Tolerance mm	: +- 0.10	†
		LOW IDLE
		Rated speed rpm : 350
FUEL DELIVERY CHA	ARACTERISTICS	Del. quantity
		cm3/1000 strokes : 15.0
Aneroid pressure		- cm3/1000 strokes : + 3.0
hPa	: 1600	+

Check tolerance cm3/1000s. : +- 6.0 Spreed cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 28,11,96 Edition : ISO 4113 Test oil

Combination No. : 0 402 648 785

Injection pump

Pump designation : PE8P120A320LS7844 EP type number : 0 412 628 860

Governor

Governer design. : RQV350...1050PA1318

Governer no. : 0 421 814 185

Cust. part No. : 0270746302

Customer-spec. information Customer : MB-NFZ : 0M442 LA Motor : 370.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 110
Tolerance L/h : + 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 : + 1.5 Tolerance bar

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 5.05 Tolerance mm : +- 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm: 20.50 : +- 0.50 Tolerance mm

Firing order : 8-7-2-6-3

: - 5- 4- 1

Phasing : 0-45-90-135-180

: -225-270-315 : +- 0.30

Tolerance Check

tolerance *NW : +- 0.50

Start of delivery mark

: + 0.10Tolerance

Check

tolerance NW : + 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 15.30 Tolerance mm: +-0.10

	+	Tolerance mm : + 0.25
Del. quantity cm3/1000 strokes	: 272.0	Rated speed rpm : 1300
7.44000	+	guide sleeve
cm3/1000 strokes	: + 1.0	travel mm : 11.50 Tolerance mm : +- 0.50
Check tolerance cm3/1000s.	: + 4.0	
Cm37 10003.		GUIDE SLEEVE POSITION
Spreed	+	- · · · · · · · · · · · · · · · · · · ·
cm3/1000 strokes	: 5.0	Rated speed rpm : 1174
Check tolerance		Rack travel in mm: 11.00
cm3/1000s.	: 9.0	Tolerance mm : + 1.30
Rated speed rpm	: 350	
, ,	1	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm		Rated speed rpm : 1050
Tolerance mm	: + 0.10 +	Aneroid pressure
Del. quantity	+	hPa : 1800
cm3/1000 strokes		Del. quantity
cm3/1000 strokes	: +- 3.0 +	cm3/1000 strokes : 272.0
Check tolerance	†	cm3/1000 strokes : +- 1.0
cm3/1000s.	: +- 6.0	Check tolerance cm3/1000s. : +- 4.0
Spreed cm3/1000 strokes		Spreed : +- 4.0
Check tolerance	· 0.0	cm3/1000 strokes : 5.0
cm3/1000s.	: 10.0	Check tolerance
U	1	cm3/1000s. : 9.0
	-	
(B) SETTING OF IN. WITH GOVERNOR	JECTION PUMP	CONTROL LEVER
	 ‡	control lever
WITH GOVERNOR GUIDE SLEEVE TRAVE		control lever position degree : 120.0
WITH GOVERNOR GUIDE SLEEVE TRAVE Rated speed rpm		control lever
WITH GOVERNOR GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve	EL : 350	control lever position degree : 120.0 tolerance degree : +- 4.0
GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve		control lever position degree : 120.0
WITH GOVERNOR GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm	: 350 : 1.48 : + 0.20	control lever position degree : 120.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 14.30
WITH GOVERNOR GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm	: 350 : 1.48	control lever position degree : 120.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 14.30 Rated speed rpm : 1095
WITH GOVERNOR GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 350 : 1.48 : + 0.20 : 1106	control lever position degree : 120.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 14.30
WITH GOVERNOR GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: 350 : 1.48 : + 0.20 : 1106 : 8.02	control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 14.30 Rated speed rpm : 1095 Tolerance 1/min : + 5
WITH GOVERNOR GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 350 : 1.48 : + 0.20 : 1106	control lever position degree : 120.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 14.30 Rated speed rpm : 1095 Tolerance 1/min : +- 5 rack travel mm : 4.00
WITH GOVERNOR GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 350 : 1.48 : + 0.20 : 1106 : 8.02 : + 0.15	control lever position degree : 120.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 14.30 Rated speed rpm : 1095 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1195
WITH GOVERNOR GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm Rated speed rpm	: 350 : 1.48 : + 0.20 : 1106 : 8.02	control lever position degree : 120.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 14.30 Rated speed rpm : 1095 Tolerance 1/min : +- 5 rack travel mm : 4.00
WITH GOVERNOR GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 350 : 1.48 : + 0.20 : 1106 : 8.02 : + 0.15 : 900	control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 14.30 Rated speed rpm : 1095 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1195 Tolerance 1/min : + 15
GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 350 : 1.48 : + 0.20 : 1106 : 8.02 : + 0.15 : 900 : 5.69	control lever position degree : 120.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 14.30 Rated speed rpm : 1095 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1195 Tolerance 1/min : +- 15 rack travel mm : 0.50
WITH GOVERNOR GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 350 : 1.48 : + 0.20 : 1106 : 8.02 : + 0.15 : 900	control lever position degree : 120.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 14.30 Rated speed rpm : 1095 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1195 Tolerance 1/min : +- 15 rack travel mm : 0.50 Tolerance mm : 0.50
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm	: 350 : 1.48 : + 0.20 : 1106 : 8.02 : + 0.15 : 900 : 5.69 : + 0.25	control lever position degree : 120.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 14.30 Rated speed rpm : 1095 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1195 Tolerance 1/min : +- 15 rack travel mm : 0.50
GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 350 : 1.48 : + 0.20 : 1106 : 8.02 : + 0.15 : 900 : 5.69 : + 0.25	control lever position degree : 120.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 14.30 Rated speed rpm : 1095 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1195 Tolerance 1/min : +- 15 rack travel mm : 0.50 Tolerance mm : 0.50
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm	: 350 : 1.48 : + 0.20 : 1106 : 8.02 : + 0.15 : 900 : 5.69 : + 0.25 : 580 : 3.62	control lever position degree : 120.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 14.30 Rated speed rpm : 1095 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1195 Tolerance 1/min : +- 15 rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1300
GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 350 : 1.48 : + 0.20 : 1106 : 8.02 : + 0.15 : 900 : 5.69 : + 0.25 : 580	control lever position degree : 120.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 14.30 Rated speed rpm : 1095 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1195 Tolerance 1/min : +- 15 rack travel mm : 0.50 Tolerance mm : 0.50
GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 350 : 1.48 : + 0.20 : 1106 : 8.02 : + 0.15 : 900 : 5.69 : + 0.25 : 580 : 3.62 : + 0.25	control lever position degree : 120.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 14.30 Rated speed rpm : 1095 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1195 Tolerance 1/min : +- 15 rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1300
GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm	: 350 : 1.48 : + 0.20 : 1106 : 8.02 : + 0.15 : 900 : 5.69 : + 0.25 : 580 : 3.62	control lever position degree : 120.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 14.30 Rated speed rpm : 1095 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1195 Tolerance 1/min : +- 15 rack travel mm : 0.50 Tolerance mm : 0.50 Rated speed rpm : 1300 LOW IDLE
GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 350 : 1.48 : + 0.20 : 1106 : 8.02 : + 0.15 : 900 : 5.69 : + 0.25 : 580 : 3.62 : + 0.25	control lever position degree : 120.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 14.30 Rated speed rpm : 1095 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1195 Tolerance 1/min : +- 15 rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1300

tolerance degree	: +- 4.0	+ Rated speed rpm : 800 + Del. quantity
Testing:		- cm3/1000 strokes : 274.0 - cm3/1000 strokes : + 1.5
Poted aread non	. 750	Check tolerance
Rated speed rpm	. 500	
rack travel mm		cm3/1000s. : +- 4.5
Tolerance mm	: 0.10	†
		† Aneroid pressure
Rated speed rpm	: 250	+ hPa : -
		Rated speed rpm : 500
CRT mm min.	: > 7.00	+ Del. quantity
		- cm3/1000 strokes : 130.0
Rated speed rpm	• 450	+ cm3/1000 strokes : +- 1.0
nated speed (pir	. 450	+ Check tolerance
		- cm3/1000s. : +- 4.0
TODOUE CONTROL		† tm5/1000s. : + 4.0
TORQUE CONTROL		†
	4000	
Rated speed rpm	: 1050	+ BREAKAWAY
rack travel mm	: 15.30	+
Tolerance mm	: ← 0.10	+
		Rack travel in mm: 14.30
Rated speed rom	: 800	Rated speed rpm : 1095
Rated speed rpm rack travel mm	15.30	+ Tolerance 1/min : + 5
Tolerance mm		1 rocer and round
roceratice iiii	0.10	I
ANEROID/ALTITUDE		T STARTING FUEL DELIVERY
		T STARTING FUEL DELIVERT
COMPENSATOR TEST		T - 1 1 100
		+ Rated speed rpm : 100
		+ Del. quantity
		+ cm3/1000 strokes : 270.0
MEASUREMENT		+ cm3/1000 strokes : +- 10.0
		- Check tolerance
Pressure hPa	: -	+ cm3/1000s. : + 14.0
Rated speed rpm	: 500	
nated opeca i piii		
Pressure hPa	: 700	
rack travel mm	± 4.65	
		1011 701 5
Tolerance mm	; - 0.10	+ LOW IDLE
B	180	Dated and and a 200
Pressure hPa	: 180	+ Rated speed rpm : 350
rack travel mm	: 0.20	+ Del. quantity
Tolerance mm	: ← 0.05	+ cm3/1000 strokes : 19.0
		+ cm3/1000 strokes : $+$ 3.0
		+ Check tolerance
START CUT-OUT		+ cm3/1000s. : $+$ 6.0
0171111 001 001		Spreed
Dadad aread ass		
	• > 100	
Rated speed rpm	: > 100	
Rated speed rpm Rated speed rpm		- Check tolerance
Rated speed rpm		
Rated speed rpm Check	: < 270	- Check tolerance
Rated speed rpm Check speed 1/min		- Check tolerance
Rated speed rpm Check	: < 270	- Check tolerance
Rated speed rpm Check speed 1/min	: < 270	- Check tolerance
Rated speed rpm Check speed 1/min Check	: < 270 : > 80	- Check tolerance
Rated speed rpm Check speed 1/min Check	: < 270 : > 80	- Check tolerance
Rated speed rpm Check speed 1/min Check speed 1/min	: < 270 : > 80 : < 290	Check tolerance cm3/1000s. : 10.0
Rated speed rpm Check speed 1/min Check	: < 270 : > 80 : < 290	- Check tolerance
Rated speed rpm Check speed 1/min Check speed 1/min FUEL DELIVERY CHA	: < 270 : > 80 : < 290	Check tolerance cm3/1000s. : 10.0
Rated speed rpm Check speed 1/min Check speed 1/min FUEL DELIVERY CHA	: < 270 : > 80 : < 290 RACTERISTICS	Check tolerance cm3/1000s. : 10.0
Rated speed rpm Check speed 1/min Check speed 1/min FUEL DELIVERY CHA	: < 270 : > 80 : < 290	Check tolerance cm3/1000s. : 10.0

M25

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 04.12.96 Test cil : ISO 4113

Combination No. : 0 402 648 9670

Injection pump

Pump designation : PE8P120A320LS7871 EP type number : 0 412 628 877

Governor

Governer design. : RQV300...1050PA1078

: -1K

Governer no. : 0 421 815 361

Cust. part No. : 9275447

Customer—spec. information Customer : LIEBHERR Motor : D 9408 TI-EA3

Power KW : 420.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.65
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-8-7-2-6

: - 3- 5- 4

Phasing : 0-45-90-135-180 : -225-270-315

Tolerance : + 0.30

Check

tolerance "NW : \leftarrow 0.50

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 12.65

Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 295.0

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. : +- 4.0

Spreed

cm3/1000 strokes : 5.0

	+	
Check tolerance	†	
cm3/1000s.	: 9.0	FULL LOAD DELIVERY AT FUL! LOAD STOP
	750	2050
Rated speed rpm :	: 350 +	Rated speed rpm : 1050
	†	Aneroid pressure
	+	hPa : -
Rack travel in mm:		Del. quantity
Tolerance mm :	: + 0.10 +	cm3/1000 strokes : 295.0
Del. quantity	+	cm3/1000 strokes : +- 1.0
cm3/1000 strokes	: 15.0	Check tolerance
cm3/1000 strokes		$cm3/1000s.$: \leftarrow 4.0
Check tolerance	1	Spreed
	: +- 6.0	cm3/1000 strokes : 5.0
Spreed	1	Check tolerance
cm3/1000 strakes	6.0	cm3/1000s. : 9.0
Check tolerance	7	CIII 7 10003 7.0
	· 10.0 I	
cm3/1000s.	10.0	
	†	CONTROL LEVER
(B) SETTING OF THIS	TOTAL DUMP	CONTROL LEVER
(B) SETTING OF INJE	CUTON LOWL	andral lavan
WITH GOVERNOR	†	control lever
	†	position degree : 120.0
		tolerance degree : +- 4.0
GUIDE SLEEVE TRAVEL	- +	
	+	RATED SPEED
	: 300 +	
guide sleeve	+	rack travel mm : 11.65
travel mm :	1.69	Rated speed rpm : 1120
Tolerance mm :	+ 0.25	Tolerance 1/min : +- 5
	+	
Rated speed rpm :	: 1117 +	rack travel mm : 4.00
guide sleeve	1	Rated speed rpm : 1210
travel mm :	10.38	Tolerance 1/min : + 15
	+ 0.25	Total allocations in the state of the state
TOTE BITCE SAID	1	rack travel mm : 0.50
Rated speed rpm :	746	Tolerance mm : + 0.50
guide sleeve	140	Rated speed rpm : 1255
	6.20	Rated speed (pill . (200
travel mm :		
Tolerance mm :	+ 0.25	
Debad exect non-	757	LOU TOLE
Rated speed rpm :	353 +	LOW IDLE
guide sleeve	7.5	
travel mm :	2.45	aanbrat tayan
Tolerance mm :	+ 0.25	control lever
	†	position degree : 78.0
Rated speed rpm :	403 +	tolerance degree : +- 4.0
guide sleeve		
travel mm :	3.18	Testing:
Tolerance mm :	+ 0.25 +	
	+	Rated speed rpm : 350_
Rated speed rpm :	450 +	rack travel mm : 4.55
guide sleeve	+	Tolerance mm : + 0.10
travel mm :	3.66	
Tolerance mm :	← 0.25 +	Rated speed rpm : 300
-	1	
Rated spead rpm :	1320	Rated speed rpm : 450
guide steeve	1	•
travel mm :	13.50	
	+ 0.50	TORQUE CONTROL

		+ cm3/1000 stroke	s · + 3 A
Rated speed rpm	• 1050	Check tolerance	
rack travel mm	• 12.65	cm3/1000s.	: +- 6.0
Tolerance mm	: +- 0.05	\$ 0.0000·	0.0
rocor arros man	. 0.05	+ Aneroid pressur	e
Rated speed rpm	: 500	+ hPa	: -
rack travel mm	: 10.05	Rated speed rpm	: 800
Tolerance mm	: ← 0.10	Dul manhati	
		+ cm3/1000 stroke	s: 299.0
Rated speed rpm		+ cm3/1000 stroke	
rack travel mm	: 11.75	+ Check tolerance	
Tolerance mm	: +- 0.10	+ cm3/1000s.	: +- 6.0
Dahad awasal awa	. 050	Ananaid nasawa	
Rated speed rpm	: 950 : 12.20	+ Aneroid pressur + hPa	e <u> </u>
rack travel mm Tolerance mm	: + 0.10	+ Rated speed rpm	500
TOTEL BLICE INT	. 1- 0.10	+ Del. quantity	
Rated speed rpm	: 600	+ cm3/1000 stroke	s : 209.0
rack travel mm	: 10.75	+ cm3/1000 stroke	
Tolerance mm		+ Check tolerance	
		+ cm3/1000s.	: +- 4.0
ANEROID/ALTITUDE		+ cm3/1000 stroke	s : 8.0
COMPENSATOR TEST		+ Check tolerance	
		+ cm3/1000s.	: 12.0
		+	
SETTING		DDEAKAHAY	
Dated aroad non	: 1050	† BREAKAWAY	
Rated speed rpm		I	
Pressure hPa rack travel mm	12.65	Rack travel in	mm · 11 65
Tolerance mm	: +- 0.05	+ Rated speed rpm	
TO CET BITCE THAT	0.05	+ Tolerance 1/min	
MEASUREMENT		-	
		+	
Pressure hPa	: -		
Rated speed rpm	: 1050	+ STARTING FUEL D	ELIVERY
rack travel mm	: 8.35	+	
Tolerance mm	: ← 0.10	+ Rated speed rpm	
		+ rack travel mm	
Rated speed rpm	: 1050	† Tolerance mm	: +- 0.20
December 15	. 4050	+ Del. quantity	. 150.0
Pressure hPa	: 1050	cm3/1000 stroke	
rack travel mm	: 11.80 : + 0.05	+ cm3/1000 stroke + Check tolerance	
Tolerance mm	: 0.03	cm3/1000s.	
Pressure hPa	: 700	Ţ (1115) 10003.	
rack travel mm	5.40	1	
Tolerance mm	: + 0.10	1	
	•		
		+ LOW IDLE	
		† 2.4	. 750
CIEL NELTWENN CHA	DACTEDISTICS	Rated speed rpm	: 330
FUEL DELIVERY CHAI	WALLENTO 1709	+ Del. quantity + cm3/1000 stroke	e • 15 N
Aneroid pressure		+ cm3/1000 stroke	
hPa	• _	+ Check tolerance	
Rated speed rpm	500	cm3/1000s.	: +- 6.0
Del. quantity	. 500	Spreed	
cm3/1000 strokes	: 276.0	+ cm3/1090 stroke	s : 6.0
		•	

Check tolerance cm3/1000s.	•	10.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 29.11.96 Edition : ISO 4113 Test oil

Combination No. 22 : 0 402 698 033

Injection pump

Pump designation : PE8H120/320LS15 EP type number : 0 412 628 004

Governor

Governer design. : RE36

: 0 421 890 369 Governer no.

Cust. part No. : 0250745602

Customer-spec. information : MB-NFZ Customer : OM 442 LA Motor

TEST BENCH REQUIREMENTS

Inlet line : 3.2 ELAB

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 3.0 : → 0.1 Tolerance bar

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 : **←** 1.5 Tolerance bar

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 600

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS No basic setting. Setting of constant delivery under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

7.00 Prestroke mm : + 0.05 Tolerance mm Check

: + 0.10tolerance mm

Rack travel in mm : 10.50 : +- 0.50 Tolerance mm

: 8-7-2-6-3 Firing order

? - 5- 4- 1

: 0-45-90-135-180 Phasing

: -225-270-315 : +- 0.50

Tolerance Check

: +- 0.75 tolerance *NW

Start of delivery mark

: + - 0.50Tolerance

Check

tolerance *NW : + 0.75

Barrel no. : 8

(B) POSITIONER TESTING Warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 VTESTING & SETTING RACK TRAVEL SENSOR POSITION Engine speed min-1: 0 Setting point (P, R and H pump) Uact V 3.100 : CRT mm 13.00 Tolerance mm : +/- 0.05 Check : +/- 0.10 tolerance mm Check value (P, R and H pump) 1.700 Uact V 6.15 CRT mm Tolerance mm : +/- 0.25 Check : +/- 0.30tolerance mm Setting point (M pump) 3,100 Uact V 12.50 CRT mm : +/- 0.05 Tolerance mm Check : +/- 0.10 tolerance mm Check value (amuq M) 1.700 Uact V CRT mm 5.50 Tolerance mm : +/- 0.25 Check : +/- 0.30 tolerance mm Stop position Uact V : Value with deenergised adjusting magnet and control rod in

stop position.

0.75

: +/- 0.25

: +/- 0.35

ENGINE-SPEED SENSOR (All P and R pumps not H and M pumps)

Test with control rod in stop position

Engine speed min-1: 60
Amplitude V: 1.4
Tolerance V: +/- 0.6
Check
tolerance V: +/- 1.20

Engine speed min-1: 600

Difference Amplitude to

Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

750 Rated speed rpm 2.800 Uact V Prestroke solenoid 7.40 Stroke mm Del. quantity cm3/1000 strokes : 342.0 cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 6.0 Spreed cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. 9.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm 950 Uact V 2.900 Prestroke solenoid Stroke mm 8.00 Del. quantity cm3/1000 strokes : cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 550 Rated speed rpm 2.700 Uact V Prestroke solenoid

Stroke mm : 9.50
Del. quantity
cm3/1000 strokes : 349.0
cm3/1000 strokes : +- 3.0

N03

CRT mm

Check

Tolerance mm

tolerance mm

Check tolerance cm3/1000S. : +- 6.0 Rated speed rpm : 630 Uact V : 2.000 Prestroke solenoid Stroke mm : 5.30 Del. quantity cm3/1000 strokes : 203.0 cm3/1000 strokes : +- 2.5 Check tolerance cm3/1000S. : +- 5.0 TEST POINT L1 Rated speed rpm : 300 Uact V : 1.500 Tolerance Volt : +- 0.060 Check tolerance Volt : +- 0.060 Prestroke solenoid Stroke mm : 8.00 Del. quantity cm3/1000 strokes : 31.0 cm3/1000 strokes : 31.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000S. : 12.0
Rated speed rpm : 630 Uact V : 2.000 Prestroke solenoid Stroke mm : 5.30 Del. quantity cm3/1000 strokes : 203.0 cm3/1000 strokes : + 2.5 Check tolerance cm3/1000s. : + 5.0 TEST POINT L1 Rated speed rpm : 300 Uact V : 1.500 Tolerance Volt : + 0.060 Check tolerance Volt : + 0.060 Prestroke solenoid Stroke mm : 8.00 Del. quantity cm3/1000 strokes : 31.0 cm3/1000 strokes : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance
Uact V : 2.000 Prestroke solenoid Stroke mm : 5.30 Del. quantity cm3/1000 strokes : 203.0 cm3/1000 strokes : + 2.5 Check tolerance cm3/1000s. : + 5.0 TEST POINT L1 Rated speed rpm : 300 Uact V : 1.500 Tolerance Volt : + 0.060 Check tolerance Volt : + 0.060 Prestroke solenoid Stroke mm : 8.00 Del. quantity cm3/1000 strokes : 31.0 cm3/1000 strokes : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance
Uact V : 2.000 Prestroke solenoid Stroke mm : 5.30 Del. quantity cm3/1000 strokes : 203.0 cm3/1000 strokes : + 2.5 Check tolerance cm3/1000s. : + 5.0 TEST POINT L1 Rated speed rpm : 300 Uact V : 1.500 Tolerance Volt : + 0.060 Check tolerance Volt : + 0.060 Prestroke solenoid Stroke mm : 8.00 Del. quantity cm3/1000 strokes : 31.0 cm3/1000 strokes : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance
Stroke mm : 5.30 Del. quantity cm3/1000 strokes : 203.0 cm3/1000 strokes : + 2.5 Check tolerance cm3/1000S. : + 5.0 TEST POINT L1 Rated speed rpm : 300 Uact V : 1.500 Tolerance Volt : + 0.060 Check tolerance Volt : + 0.060 Prestroke solenoid Stroke mm : 8.00 Del. quantity cm3/1000 strokes : 31.0 cm3/1000 strokes : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance
Del. quantity cm3/1000 strokes : 203.0 cm3/1000 strokes : + 2.5 Check tolerance cm3/1000s. : + 5.0 TEST POINT L1 Rated speed rpm : 300 Uact V : 1.500 Tolerance Volt : + 0.060 Check tolerance Volt : + 0.060 Prestroke solenoid Stroke mm : 8.00 Del. quantity cm3/1000 strokes : 31.0 cm3/1000 strokes : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance
<pre>cm3/1000 strokes : 203.0 cm3/1000 strokes : + 2.5 Check tolerance cm3/1000s. : + 5.0 TEST POINT L1 Rated speed rpm : 300 Uact V : 1.500 Tolerance Volt : + 0.060 Check tolerance Volt : + 0.060 Prestroke solenoid Stroke mm : 8.00 Del. quantity cm3/1000 strokes : 31.0 cm3/1000 strokes : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance</pre>
<pre>cm3/1000 strokes : + 2.5 Check tolerance cm3/1000s. : + 5.0 TEST POINT L1 Rated speed rpm : 300 Uact V : 1.500 Tolerance Volt : + 0.060 Check tolerance Volt : + 0.060 Prestroke solenoid Stroke mm : 8.00 Del. quantity cm3/1000 strokes : 31.0 cm3/1000 strokes : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance</pre>
Check tolerance cm3/1000s. : + 5.0 TEST POINT L1 Rated speed rpm : 300 Uact V : 1.500 Tolerance Volt : + 0.060 Check tolerance Volt : + 0.060 Prestroke solenoid Stroke mm : 8.00 Del. quantity cm3/1000 strokes : 31.0 cm3/1000 strokes : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance
TEST POINT L1 Rated speed rpm : 300 Uact V : 1.500 Tolerance Volt : + 0.060 Check tolerance Volt : + 0.060 Prestroke solenoid Stroke mm : 8.00 Del. quantity cm3/1000 strokes : 31.0 cm3/1000 strokes : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance
Rated speed rpm : 300 Uact V : 1.500 Tolerance Volt : + 0.060 Check tolerance Volt : + 0.060 Prestroke solenoid Stroke mm : 8.00 Del. quantity cm3/1000 strokes : 31.0 cm3/1000 strokes : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance
Rated speed rpm : 300 Uact V : 1.500 Tolerance Volt : + 0.060 Check tolerance Volt : + 0.060 Prestroke solenoid Stroke mm : 8.00 Del. quantity cm3/1000 strokes : 31.0 cm3/1000 strokes : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance
Uact V : 1.500 Tolerance Volt : + 0.060 Check tolerance Volt : + 0.060 Prestroke solenoid Stroke mm : 8.00 Del. quantity cm3/1000 strokes : 31.0 cm3/1000 strokes : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance
Uact V : 1.500 Tolerance Volt : + 0.060 Check tolerance Volt : + 0.060 Prestroke solenoid Stroke mm : 8.00 Del. quantity cm3/1000 strokes : 31.0 cm3/1000 strokes : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance
Check tolerance Volt : + 0.060 Prestroke solenoid Stroke mm : 8.00 Del. quantity cm3/1000 strokes : 31.0 cm3/1000 strokes : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance
Volt : +- 0.060 Prestroke solenoid Stroke mm : 8.00 Del. quantity cm3/1000 strokes : 31.0 cm3/1000 strokes : +- 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance
Prestroke solenoid Stroke mm : 8.00 Del. quantity cm3/1000 strokes : 31.0 cm3/1000 strokes : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance
Stroke mm : 8.00 Del. quantity cm3/1000 strokes : 31.0 cm3/1000 strokes : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance
cm3/1000 strokes : 31.0 cm3/1000 strokes : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance
cm3/1000 strokes : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance
Spreed cm3/1000 strokes : 8.0 Check tolerance
cm3/1000 strokes : 8.0 Check tolerance
Check tolerance
STARTING FUEL DELIVERY
Rated speed rpm : 100
Uact V : 1.900 Prestroke solenoid
Stroke mm : 10.00
Del. quantity
cm3/1000 strokes : 108.0
cm3/1000 strokes : + 10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 03.12.96
Test oil

Combination No. : 0 402 746 601

Injection pump

Pump designation : PES6P120A720RS7389

EP type number : 0 412 726 944

Governor

Governer design. : RQ275/1050PA1021-4

Governer no. : 0 421 801 795

Cust. part No. :

Customer-spec. information

Customer : IVECO-FRANCE

: 8460.41E.711 Motor

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C Tolerance *C : + 2.0

Overflow valve : 2 417 413 076

Inlet press. bar : 2.5 Tolerance bar ; + 0.1

Overflow quantity

min. L/h : 145 Tolerance L/h : + 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : \leftarrow 1.0

Prestroke mm : 5.15 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.30

Check

tolerance 'NW : + 0.75

Start of delivery mark

tolerance *NW : +- 0.40

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 10.95

Tolerance mm : +- 0.05

NO5

Del. quantity cm3/1000 strokes	• 166.0
cm3/1000 strokes	; 1.0
Check tolerance cm3/1800s.	: + 4.0
Spreed cm3/1000 strokes	: 5.0
Check tolerance cm3/1000s.	: 9.0
Rated speed rpm	: 275
Rack travel in mm Tolerance mm	: 4.60 : + 0.10
Del. quantity cm3/1000 strokes cm3/1000 strokes	
Check tolerance cm3/1000s.	: + 6.0
Spreed cm3/1000 strokes	: 8.0
Check tolerance	
cm3/1000s. (B) SETTING OF INWITH GOVERNOR	: 12.0 JECTION PUMP
cm3/1000s. (B) SETTING OF INWITH GOVERNOR	JECTION PUMP
cm3/1000s. (B) SETTING OF IN	JECTION PUMP
cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE POSI Rated speed rpm Rack travel in mm	JECTION PUMP TION : 600
cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE POSI Rated speed rpm Rack travel in mm Tolerance mm	JECTION PUMP TION : 600 : 20.00
cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE POSITE Rated speed rpm Rack travel in mm Tolerance mm FULL LOAD DELIVER Rated speed rpm Aneroid pressure	JECTION PUMP TION : 600 : 20.00 : \times 0.80 Y AT FULL LOAD STOP : 1050
cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE POSITE Rated speed rpm Rack travel in mm Toierance mm FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa	JECTION PUMP TION : 600 : 20.00 : + 0.80 Y AT FULL LOAD STOP
cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE POSITE Rated speed rpm Rack travel in mm Tolerance mm FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes	JECTION PUMP TION : 600 : 20.00 : + 0.80 Y AT FULL LOAD STOP : 1050 : 900 : 166.0
cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE POSI Rated speed rpm Rack travel in mm Tolerance mm FULL LOAD DELIVER' Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	JECTION PUMP TION : 600 : 20.00 : → 0.80 Y AT FULL LOAD STOP : 1050 : 900 : 166.0 : + 1.0
cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE POSI Rated speed rpm Rack travel in mm Tolerance mm FULL LOAD DELIVER' Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed	JECTION PUMP TION : 600 : 20.00 : + 0.80 Y AT FULL LOAD STOP : 1050 : 900 : 166.0 : + 1.0 : + 4.0
cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE POSI Rated speed rpm Rack travel in mm Tolerance mm FULL LOAD DELIVER' Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	JECTION PUMP TION : 600 : 20.00 : → 0.80 Y AT FULL LOAD STOP : 1050 : 900 : 166.0 : + 1.0

rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Tolerance mm Rated speed rpm	: 9.90 : 1103 : ← 8 : 4.00 : 1165 : ← 15 : 0.50 : ← 0.50 : 1350
LOW IDLE	
control lever position degree tolerance degree	: 73.0 : +- 4.0
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 275 : 4.60 : +- 0.10
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 356 : ← 20
Rated speed rpm	: 175
CRT mm min.	: > 6.10
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 1050 : 10.95 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 600 : 900 : 10.95 : + 0.05
MEASUREMENT	

: -
600
9.00
: + 0.10
: 600
: 220
: 9.30
: ← 0.20
: 350
: 10.45
: +- 0.05
400
: > 100
: < 195
: > 80
. 045
: < 215
: 900
: 600
. 17/ 5
: 174.5
: +- 3.0
: +- 6.0
0.0
: 600
. 000
: 119.0
· + 1.0
: +- 4.0
: 9.90
, 7.7U
•
: 1103 : ← 8

: 170.0 : + 15.0 : + 19.0
: 275 : 23.0 : + 3.0 : + 6.0 : 8.0 : 12.0

End of test specification sheet

STARTING FUEL DELIVERY

Note remarks

Refer to Service Info for test and ediustment instructions. See microcard(s) W400/...

Edition Test oil

: 29.11.96 : ISO 4113

Combination No. : 0 402 746 883

Injection pump

Pump designation : PES6P110A320RS7198 EP type number : 0 412 716 802

Governor

Governer design. : RQV275...1250PA942K

Governer no. : 0 421 815 234

Cust. part No. : CCEP 5097A

Customer-spec. information

Customer : RENAULT V.I. : MIDR 06.02.26 L Motor

Power KW : 132.5

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : Tolerance bar : + 0.1

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 4.65 : +- 0.50 Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm: 13.00 Tolerance mm : \leftarrow 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

: ← 0.30 Tolerance

Check

tolerance *NW : ← 0.50

Start of delivery mark

: + - 0.50Tolerance

Check

tolerance *NW : + 0.75

Barrel no. : 1

CRT ZERO POSITION

Rack travel in mm : 14.65

Tolerance mm : + 0.05

NO8

BASIC SETTING	
Rated speed rpm	: 1250
Del. quentity cm3/1000 strokes	: 158.0
cm3/1000 strokes	: +- 1.0
Check tolerance cm3/1000s.	: + 3.5
Spreed cm3/1000 strokes	: 4.0
Check tolerance cm3/1000s.	: 7.5
Rated speed rpm	: 275
Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance cm3/1000s.	: 19.5 : + 2.5 : + 5.0 : 4.5 : 7.5
(B) SETTING OF IN. WITH GOVERNOR GUIDE SLEEVE POSI	
Rated speed rpm	: 1385
Rack travel in mm Tolerance mm	: 13.60 : + 1.30
FULL LOAD DELIVER	Y AT FULL LOAD STOP
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes	: 1250 : 1000 : 158.0 : + 1.0 : + 3.5 : 4.0
CIRCY TOUGH STITUKES	24 11

: 114.0 : ← 4.0
: −1.00 : 1320 : + 5
: -10.65 : 1490 : +- 15
: -14.15 : + 0.55 : 1600
: 62.0 : + 4.0
: 200
: < -8.90
: 415
: 1250
. 1238
: 750 : -0.80 : + 0.10
: 750
: 750 : −0.80 : ← 0.10

	+	- cm3/1000 strokes : 8.0
ANEROID/ALTITUDE COMPENSATOR TEST	1	- Aneroid pressure - hPa : - Rated speed rpm : 750
SETTING	-	- Del. quantity - cm3/1000 strokes : 39.0 - cm3/1000 strokes : +- 5.0
Rated speed rpm Pressure hPa	: 1250 : 1000	- Check tolerance - cm3/1000s. : +- 8.0
MEASUREMENT	1	- Spreed - cm3/1000 strokes : 8.0
Pressure hPa Rated speed rpm rack travel mm Tolerance mm		Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 68.0
Rated speed rpm	: 1250	- cm3/1000 strokes : 60.0 - cm3/1000 strokes : + 1.0 - Check tolerance
Pressure hPa rack travel mm Tolerance mm	: -2.60	- cm3/1000s. : + 3.5
Pressure hPa rack travel mm Tolerance mm	: 360 : -1.75 : +- 0.05	BREAKAWAY Rack travel in mm : -1.00 Rated speed rpm : 1320
START CUT-OUT		- Tolerance 1/min : +- 5 - -
Rated speed rpm Rated speed rpm		- STARTING FUEL DELIVERY
Check speed 1/min Check speed 1/min	: > 130 : < 220	Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 100.0 cm3/1000 strokes : + 15.0 Check tolerance cm3/1000s. : + 19.0
FUEL DELIVERY CHA	RACTERISTICS	
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	: + 2.0	LOW IDLE Rated speed rpm : 275 Del. quantity cm3/1000 strokes : 19.5
cm3/1000S. Aneroid pressure	: ← 5.0	cm3/1000 strokes : +- 2.5 Check tolerance cm3/1000s. : +- 5.0
hPa Rated speed rpm	: - : 750	Spreed
Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: 62.0	Check tolerance : 7.5 :
	•	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 29.11.96 Edition Test oil : ISO 4113

Combination No. : 0 402 746 894

Injection pump

Pump designation : PES6P110A320RS7208

EP type number : 0 412 716 803

Governor

Governer design. : RQV275...1175PA942

: -1K

: 0 421 815 244 Governer no.

Cust. part No. : CCEP 5100A

Customer-spec. information

Customer : RENAULT V.I. : MIDRO60226 M Motor

Power KW : 210.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : + 2.0 Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.15 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 13.50 Tolerance mm : \leftarrow 0.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

Tolerance : \leftarrow 0.30

Check

tolerance *NW : +- 0.50

Start of delivery mark

Tolerance : \leftarrow 0.50

Check

tolerance $^{\circ}NW$: + 0.75

Barrel no. : 1

CRT ZERO POSITION

Rack travel in mm: 14.05 Tolerance mm : ← 0.05

		+ Tolerance mm : +- 0.25
BASIC SETTING		Rated speed rpm : 440 guide sleeve
Rated speed rpm	: 1175	travel mm : 3.01 Tolerance mm : +- 0.25
Del. quantity cm3/1000 strokes	: 171.0	Rated speed rpm : 550 guide sleeve
cm3/1000 strokes	: + 1.0	travel mm : 3.92 Tolerance mm : + 0.25
Check tolerance cm3/1000s.	: ← 3.5	Rated speed rpm : 1650 guide sleeve
Spreed cm3/1000 strokes	: 4.0	travel mm : 13.50 Tolerance mm : + 0.50
Check tolerance cm3/1000S.	: 7.5	GUIDE SLEEVE POSITION
Rated speed rpm	: 275	Rated speed rpm : 1400
Rack travel in mm Tolerance mm	: -8.80 : +- 0.20	Rack travel in mm : 13.00 Tolerance mm : +- 1.30
Del. quantity cm3/1000 strokes cm3/1000 strokes		FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance cm3/1000s.	: +- 5.0	Rated speed rpm : 1175 Aneroid pressure hPa : 1000
Spreed cm3/1000 strokes Check tolerance cm3/1000S.	: 4.5 : 7.5	Del. quantity cm3/1000 strokes : 171.0 cm3/1000 strokes : + 1.0 Check tolerance
(B) SETTING OF IN WITH GOVERNOR	UECTION PUMP	cm3/1000s. : + 3.5 Spreed cm3/1000 strokes : 4.0 Check tolerance
GUIDE SLEEVE TRAV	EL	cm3/1090s. : 7.5
Rated speed rpm guide sleeve	: 275	CONTROL LEVER
travel mm Tolerance mm	: 1.00 : +- 0.25	control lever position degree : 114.0
Rated speed rpm guide sleeve travel mm	: 1256 : 9.17	tolerance degree : + 4.0 RATED SPEED
Tolerance mm	: + 0.25	rack travel mm : -1.00
Rated speed rpm guide sleeve	: 888	Rated speed rpm : 1245 Tolerance 1/min : +- 5
travel mm Tolerance mm	: 6.57 : + 0.25	rack travel mm : -10.05 Rated speed rpm : 1430
Rated speed rpm guide sleeve	: 390	Tolerance 1/min : + 15
travel mm	: 2.39	+ rack travel mm : -13.55

Tolerance mm Rated speed rpm		Pressure hPa : 240 rack travel mm : -2.70 Tolerance mm : + 0.20
LOW IDLE	†	Pressure hPa : 520 rack travel mm : -1.45 Tolerance mm : +- 0.05
control lever position degree tolerance degree		START CUT-OUT Rated speed rpm :> 150
Testing:	1	Rated speed rpm : > 150 Rated speed rpm : < 200
Rated speed rpm rack travel mm Tolerance mm	: -8.80 +	Check speed 1/min : > 130 Check speed 1/min : < 220
Rated speed rpm	: 200	
CRT mm max.	: < -8.20	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm	: 415	Aneroid pressure hPa : 1000 Rated speed rpm : 700
TORQUE CONTROL	1	Del. quantity cm3/1000 strokes : 151.0
Rated speed rpm	: 1175	cm3/1000 strokes : + 3.0 Check tolerance
Rated speed rpm rack travel mm Tolerance mm	: -0.70 +	cm3/1000s. : + 6.0 Aneroid pressure
Rated speed rpm rack travel mm Tolerance mm	: -6.05 +	hPa : - Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 55.0
Rated speed rpm rack travel mm Tolerance mm	: -0.35	<pre>cm3/1000 strokes : +- 5.0 Check tolerance cm3/1000s. : +- 8.0 Spreed cm3/1000 strokes : 8.0</pre>
ANEROID/ALTITUDE COMPENSATOR TEST		Aneroid pressure hPa : - Rated speed rpm : 500
SETTING	<u></u>	Del. quantity cm3/1000 strokes : 75.0 cm3/1000 strokes : +- 1.0
Rated speed rpm Pressure hPa	: 1175 : 1000	Check tolerance cm3/1000s. : +- 3.5
MEASUREMENT	Ī	BREAKAWAY
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	:	Rack travel in mm: -1.00 Rated speed rpm: 1245 Tolerance 1/min: + 5
Rated speed rpm	: 1175	Total and thinking the second

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity cm3/1000 strokes : 105.0 cm3/1000 strokes : + 15.0

Check tolerance cm3/1000s. : +- 19.0

LOW IDLE

Rated speed rpm : 275

Del. quantity cm3/1000 strokes : 21.0 cm3/1000 strokes : + 2.5

Check tolerance cm3/1000s.

5.0 : +-

Spreed

4.5 cm3/1000 strokes :

Check tolerance

cm3/1000s. 7.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 30.08.95 : ISO 4113

Combination No. : 0 402 795 203

Injection pump

Pump designation : PES5H120/720/3LS1004

EP type number : 0 412 725 203

Governor

Governer design. : RE33

Governer no.

: 0 421 890 364

Cust. part No. : 51.111103-7476

Customer-spec. information

Customer : MAN Motor

: D 2865 LF 09

Power KW

: 250.0

TEST BENCH REQUIREMENTS

Inlet line : 4(EHAB)

Test oil inlet

temp. °C

40

Tolerance °C 2.0

Overflow valve : 2 417 413 073

Inlet press. bar :

3.0

Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

bar

208.5

Tolerance bar

: +- 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

N16

x inside diameter:

x length mm :

600

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS No basic setting.

Setting of constant delivery

under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 7.65

: +- 0.05 Tolerance mm

Check

: + 0.10tolerance mm

Rack travel in mm: 10.50

: **←** 0.50 Tolerance mm

10.00 Prestroke mm : +- 0.05

Tolerance mm

Check

: ← 0.10 tolerance mm

Rack travel in mm: 10.50

: +- 0.50 Tolerance mm

: 1-3-5-4-2 Firing order

: 0-72-144-216-288 Phasing

Start of delivery blocking

: +- 0.10 Tolerance

Barrel no. : 5

(B) POSITIONER TESTING Warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 V
TESTING & SETTING RACK TRAVEL SENSOR POSITION
Engine speed min-1: 0
Setting point (P, R and H pump)
Uact V : 3.100 CRT mm : 13.00 Tolerance mm : +/- 0.05 Check tolerance mm : +/- 0.10
Check value (P, R and H pump)
Uact V : 1.700 CRT mm : 6.15 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30
Setting point (M pump)
Uact V : 3.100 CRT mm : 12.50 Tolerance mm : +/- 0.05 Check tolerance mm : +/- 0.10
Check value (M pump)
Uact V : 1.700 CRT mm : 5.50 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30
Stop position
Uact V : Value with deenergised adjusting magnet and control rod in stop position.
CRT mm : 0.75 Tolerance mm : +/- 0.25

ENGINE-SPEED SENSOR (All P and R pumps not H and M pumps) Test with control rod in stop position Engine speed min-1: 60 Amplitude V : 1.4 Tolerance V : +/- 0.6 Check tolerance V : +/- 1.20 Engine speed min-1: 600 Difference Amplitude to Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm 750 Uact V 3.350 Prestroke solenoid Stroke mm 10.00 Del. quantity cm3/1000 strokes : 332.0 cm3/1000 strokes : +-1.0 Check tolerance cm3/1000s. 4.0 Spreed cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. 9.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm 750 Uact V 1.450 Prestroke solenoid Stroke mm 10.00 Del. quantity 74.0 cm3/1000 strokes : cm3/1000 strokes : +-4.0 Check tolerance cm3/1000s. 8.0 Spreed cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. 8.0 1000 Rated speed rpm 3.290 Uact V Prestroke solenoid

Stroke mm

8.00

Check

tolerance mm : \pm +/- 0.35

Del. quantity cm3/1000 strokes cm3/1000 strokes	: +-	312.0 4.0	
Check tolerance cm3/1000S.	: +-	8.0	
Rated speed rpm	:	500	
Uact V	:	2.900	
Prestroke solenoid Stroke mm	:	9.20	
Del. quantity	•		
cm3/1000 strokes cm3/1000 strokes	:	306.0 5.0	
Check tolerance	• •-	5.0	
cm3/1000s.	: +-	9.0	
Rated speed rpm	:	500	
Uact V	:	2.100	
Prestroke solenoid Stroke mm	:	6.20	
Del. quantity		175 0	
cm3/1000 strokes cm3/1000 strokes	: +-	175.0 4.0	
Check tolerance	•		
cm3/1000S.	: +-	8.0	
TEST POINT L1			
Rated speed rpm	:	300	
Uact V Tolerance Volt	:	1.500	
Check tolerance	• '	0.000	
Volt		0.080	
Prestroke solenoic Stroke mm	;	7.20	
Del. quantity			
cm3/1000 strokes cm3/1000 strokes	: +-	30.0 3.0	
Spreed	• '	3.0	
cm3/1000 strokes	:	8.0	
Check tolerance cm3/1000S.	:	12.0	
STARTING FUEL DELI	VERY		
Rated speed rpm	:	100	
jact V Prestroke solenoid		2.450	
Stroke im	:	7.00	
Del. quantity		182.0	
cm3/1000 strokes cm3/1000 strokes		10.0	
Check tolerance	-		
cm3/1000s.	: +-	14.0	
,			

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 30.08.95 Edition : ISO 4113 Test oil

Combination No. : 0 402 796 202

Injection pump

Pump designation : PES6H120/720/3LS1005

EP type number : 0 412 726 202

Governor

Governer design. : RE33

Governer no. : 0 421 890 364

Cust. part No. : 51.111103-7477

Customer—spec. information Customer : MAN

: D 2866 LF 16 Motor

Power KW : 294.0

TEST BENCH REQUIREMENTS

Inlet line : 4(EHAB)

Test oil inlet

temo. °C Tolerance °C : + 2.0

Overflow valve : 2 417 413 073

3.0 Inlet press. bar : Tolerance bar : +-

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 : + 1.5 bar Tolerance bar

Test Lines : 1 680 750 089

Outside diameter : 8.0

N19

x inside diameter: 3.0 x length mm : 600

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS No basic setting. Setting of constant delivery

under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 7.65
Tolerance mm : + 0.05 Check

: + 0.10 tolerance mm

Rack travel in mm: 10.50 Tolerance mn: +- 0.50

Prestroke mm : 10.00 Tolerance mm : + 0.05 Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : \div 0.50

: 6-2-4-1-5-: 3 Firing order

: 0-60-120-180-240 Phasing

: -300

Start of delivery blocking

: +- 0.10 Tolerance

Barrel no. : 6

(B) POSITIONER TESTING Warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 VTESTING & SETTING RACK TRAVEL SENSOR POSITION Engine speed min-1: Setting point (P, R and H pump) Uact V 3.100 CRT mm 13.00 Tolerance mm : +/- 0.05 Check : +/- 0.10 tolerance mm Check value (P, R and H pump) 1.700 Uact V 6.15 CRT mm Tolerance mm : +/- 0.25 Check : +/- 0.30 tolerance mm Setting point (M pump) 3,100 Uact V 12.50 CRT mm Tolerance mm : +/- 0.05 Check : +/- 0.10 tolerance mm Check value (M pump) Uact V 1.700 5.50 CRT am : +/- 0.25 Tolerance mm Check : +/- 0.30tolerance mm Stop position : Value with Uact V deenergised adjusting magnet and control rod in stop position. CRT mm 0.75 Tolerance mm : +/- 0.25

: +/- 0.35

ENGINE-SPEED SENSOR (All P and R pumps not H and M pumps)

Test with control rod in stop position

Engine speed min-1: 60
Amplitude V: 1.4
Tolerance V: +/- 0.6
Check
tolerance V: +/- 1.20

Engine speed min-1: 600

Difference Amplitude to

Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

750

TEST POINT V1

Rated speed rpm

3.350 Uact V Prestroke solenoid Stroke mm 10.00 Del. quantity cm3/1000 strokes : 332.0 cm3/1000 strokes : +-1.0 Check tolerance cm3/1000s. 4.0 Spreed cm3/1000 strokes : 5.0 Check tolerance cm3/1000s.9.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm 750 Uact V 1.450 Prestroke solenoid Stroke mm 10.00 Del. quantity cm3/1000 strokes : 74.0 cm3/1000 strokes : +-4.0 Check tolerance cm3/1000s. 8.0 Spreed 4.0 cm3/1000 strokes : Check tolerance cm3/1000s.8.0

Rated speed rpm : 1000 Uact V : 3.290 Prestroke solenoid Stroke mm : 8.00

N20

Check

tolerance mm

m3/1000 strokes neck tolerance m3/1000s.	: +-	- 10.0 - 14.0		
el. quantity m3/1000 strokes		182.0		
act V restroke solenoid troke mm	: 	2.450 7.00		
FARTING FUEL DELI ated speed rpm	VERY	r 100		
n3/1000s.	:	12.0		
m3/1000 strokes heck tolerance	:	8.0		
	: +	- 3.0		
el. quantity m3/1000 strokes	:	30.0		
olt restroke solenoid troke mm		0.080 - 7.20		
olerance Volt heck tolerance		- 0.060		
ated speed rpm act V	:	300 1.500		
m3/1000s. EST POINT L1	; +	- 8.0	l	
m3/1000 strokes heck tolerance	: +	- 4.0 - 8.0		
el. quantity m3/1000 strokes		175.0		
act V restroke solenoid troke mm	: :	2.100 6.20		
m3/1000s. ated speed rpm	: +	- 9.0 5 0 0		
m3/1000 strokes m3/1000 strokes heck tolerance	: +	,,,	•	
restroke solenoid troke mm el. quantity	: :	9.20)	
ated speed rpm act V	:	500 2.900)	
m3/1000 strokes heck tolerance m3/1000s.	: +	- 4.0 - 8.0		

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 01.12.95 Test oil : ISO 4113

Combination No. : 0 402 796 203

Injection pump

Pump designation : PES6H120/720/3LS1006

EP type number : 0 412 726 203

Governor

Governer design. : RE33

6overner no. : 0 421 890 365

Cust. part No. : 51.111103-7479

Customer—spec. information Customer : MAN

Motor : D 2866 LUH 21

Power KW : 257.0

TEST BENCH REQUIREMENTS

Inlet line : 4(EHAB)

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 073

Inlet press. bar : 3.0 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS No basic setting. Setting of constant delivery under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 10.00 Tolerance mm : +- 0.05 Check

uneuk

tolerance mm : +- 0.10

Rack travel in mm : 10.50Tolerance mm : +0.50

Firing order : 6-2-4-1-5-

: 3

Phasing : 0-60-120-180-240

: -300 Tolerance : + 0.50

Check

tolerance °NW : +- 0.75

Start of delivery blocking

Barrel no. : 6

(B) POSITIONER TESTING Warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR

POSITION

Engine speed min-1: 0 Setting point (P, R and H pump) Uact V : 3.100 CRT mm : 13.00	Amplitude V : 1.4 Tolerance V : +/- 0.6 Check tolerance V : +/- 1.20 Engine speed min-1: 600 Difference
Tolerance mm : +/- 0.05 Check tolerance mm : +/- 0.10	Amplitude to Amplitude V : max.1.4
Check value (P, R and H pump)	(C) INJECTION PUMP WITH POSITIONER
Uact V : 1.700 CRT mm : 6.15 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30	TEST POINT V1 Rated speed rpm : 750 Uact V : 3.350 Prestroke solenoid Stroke mm : 10.00 Del. quantity
Setting point (M pump)	- cm3/1000 strokes : 332.0 - cm3/1000 strokes : + 1.0 - Check tolerance - cm3/1000s. : + 4.0
Uact V : 3.100 CRT mm : 12.50 Tolerance mm : +/- 0.05 Check tolerance mm : +/- 0.10	Spreed : 5.0 cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0
Check value (M pump)	FUEL DELIVERY CHARACTERISTICS Rated speed rpm : 750 Uact V : 1.450
Uact V : 1.700 CRT mm : 5.50 Tolerance mm : +/- 0.25	Prestroke solenoid Stroke mm : 10.00 Del. quantity cm3/1000 strokes : 74.0
Check tolerance mm : +/- 0.30 Stop position	+ cm3/1000 strokes : + 4.0 + Check tolerance + cm3/1000s. : + 8.0
Uact V: Value with deenergised adjusting magnet and control rod in	+ Spreed + cm3/1000 strokes : 4.0 + Check tolerance + cm3/1000s. : 8.0
stcp position. CRT mm : 0.75 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.35	Rated speed rpm : 1000 Uact V : 3.290 Prestroke solenoid Stroke mm : 8.00
ENGINE-SPEED SENSOR (All P and R pumps not H and M pumps)	Del. quantity
Test with control rod in stop position	Rated speed rpm : 500 Uact V : 2.900 Prestroke solenoid
Engine speed min-1: 60	+ Stroke mm : 9.20

Del. quantity cm3/1000 strokes	: 307.0
cm3/1000 strokes	: +- 5.0
Check tolerance	
cm3/1000s.	: +- 9.0
Rated speed rpm	: 500
Uact V Prestroke solenoi	: 2. 10 0
Stroke mm	· 6.20
Del. quantity	
cm3/1000 strokes	: 175.0
cm3/1000 strokes Check tolerance	: + 4.0
cm3/1000s.	: +- 8.0
TEST POINT L1	
Rated speed rpm	: 300
Uact V Tolerance Volt	: 1.500 : +- 0.050
Check tolerance	. +- 0.050
Volt	: ← 0.080
Prestroke solenoi	
Stroke mm Del. quantity	: 7.20
cm3/1000 strokes	: 36.0
cm3/1000 strokes	: + 3.0
Spreed	2.2
cm3/1000 strokes Check tolerance	: 8.0
cm3/1000s.	: 12.0
STARTING FUEL DEL	IVERY
Rated speed rpm	: 100
Uact V	: 2.450
Prestroke solenoid	7 00
Stroke mm Del. quantity	: 7.00
cm3/1000 strokes	: 190.0
cm3/1000 strokes	: ← 10.0
Check tolerance cm3/1000s.	: + 14.0
	17.0
End of test speci	fication sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 02.12.96 Edition Test oil : ISO 4113

Combination No. : 0 403 246 048

Injection pump

Pump designation : PES6MW100/720RS1522 EP type number : 0 413 206 023

Governor

Governer design. : RQV300...1300MW148

: -5

Governer no. : 0 420 083 326

Cust. part No. : 0250744902

Customer-spec. information Customer : MB-NFZ Motor : 0M366LA Power KW : 155.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar : + 1.5 Tolerance bar

Test Lines : 1 680 750 089

Outside diameter : 8.0

N25

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 4.55
Tolerance mm : + 0.05 Check

: +- 0.10 tolerance mm

Rack travel in mm : 20.00 Tolerance mm : + 1.00

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 13.30 Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 118.0

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

cm3/1000 strokes : 4.5

Check tolerance	†
cm3/1000s. : 7.0	GUIDE SLEEVE POSITION
Rated speed rpm : 300	Rated speed rpm : 1500
Rack travel in mm: 4.20 Tolerance mm: + 0.10 Del. quantity	Rack travel in mm : 10.00 Tolerance mm : + 2.70
cm3/1000 strokes : 12.0 cm3/1000 strokes : ← 2.0 Check tolerance	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s. : +- 4.5 Spreed	Rated speed rpm : 1300 Aneroid pressure
cm3/1000 strokes : 2.0 Check tolerance	+ hPa : 1200 + Del. quantity
cm3/1000s. : 4.0	+ cm3/1000 strokes : 118.0 + cm3/1000 strokes : + 1.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	+ Check tolerance - cm3/1000s. : + 3.0 - Spread
	+ cm3/1000 strokes : 4.5 + Check tolerance
GUIDE SLEEVE TRAVEL	+ cm3/1000s. : 7.0
Rated speed rpm : 300 guide sleeve	‡
travel mm : 0.92 Tolerance mm : + 0.25	+ CONTROL LEVER
Rated speed rpm : 1355 guide sleeve	<pre>+ control lever + position degree : 120.0 + tolerance degree : + 4.0</pre>
travel mm : 9.32	+
Tolerance mm : + 0.25	+ RATED SPEED
Rated speed rpm : 1078 guide sleeve	rack travel mm : 12.30 Rated speed rpm : 1345
travel mm : 7.06 Tolerance mm : + 0.25	Tolerance 1/min : + 5
Rated speed rpm : 514 guide sleeve	rack travel mm : 4.00 Rated speed rpm : 1485 Tolerance 1/min : +- 15
travel mm : 2.14 Tolerance mm : + 0.25	+ rack travel mm : 0.50 + Tolerance mm : +- 0.50
Rated speed rpm : 564 guide sleeve	Rated speed rpm : 1600
travel mm : 2.60 Tolerance mm : + 0.25	LOW IDLE
Rated speed rpm : 740 guide sleeve	+ LOW IDEE
travel mm : 3.93 Tolerance mm : +- 0.25	control lever position degree : 74.0 tolerance degree : + 4.0
Rated speed rpm : 1720 guide sleeve	Testing:
travel mm : 13.50 Tolerance mm : + 0.50	Rated speed rpm : 300 rack travel mm : 4.20

Tolerance mm	: + 0.10	+	Aneroid pressure		
Rated speed rpm	: 200	‡	hPa Rated speed rpm	: 1200 : 750	
		+	Del. quantity	444.0	
CRT mm min.	: > 5.00	†	cm3/1000 strokes cm3/1000 strokes		
		I	Check tolerance		
TORQUE CONTROL		Ŧ	cm3/1000s.		
Data dama adama	. 4700	†	Spreed cm3/1000 strokes		
Rated speed rpm rack travel mm	: 1300	1	Check tolerance		
Tolerance mm	: + 0.05	Ŧ	cm3/1000s.	: 9.0	
Rated speed rom	: 750	1	Aneroid pressure		
Rated speed rpm rack travel mm Tolerance mm	: 13.30	+		4	
Tolerance mm	: + 0.10	+	hPa Rated speed rpm	: 1300	
		†	Del. quantity cm3/1000 strokes	. 405.0	
ANEROID/ALTITUDE			cm3/1000 strokes	105.0	
COMPENSATOR TEST		I	Check tolerance		
TOTAL CITOTAL OF TEST		+	cm3/1000s.	: + 3.0	
SETTING		‡	Aneroid pressure		
		+	hPa	: -	
Rated speed rpm	: 500	†	Rated speed rpm	: 500	
Pressure hPa rack travel mm	: 1200	†	Del. quantity cm3/1000 strokes	. /9.0	
Tolerance mm	· + 0.10	I	cm3/1000 strokes	· + 1.0	
TOCET BITCE THE	0.10	1	Check tolerance		
MEASUREMENT		+	cm3/1000s.	: ← 3.0	
Pressure hPa		Ţ			
Rated speed rpm	: 500	+	BREAKAWAY		
Tolerance mm	: +- 0.05	İ			
Rated speed rpm	: 500	+	Rack travel in mm	: 12.30	
D b.D.	. 900	†	Rated speed rpm Tolerance 1/min		
Pressure hPa rack travel mm	: 600 : 430	Ī	ioterance inmin)	
Tolerance mm		+			
Pressure hPa	: 300	1	STARTING FUEL DEL	TVFRY	
rack travel mm	: 1.20	1	J , OLL VLL	-	
Tolerance mm	: ← 0.10	+	Rated speed rpm	: 100	
		†	Del. quantity cm3/1000 strokes	450.0	
OTABE OUT OUT		+	cm3/1000 strokes	: 150.0	
START CUT-OUT		Ī	cm3/1000 strokes Check tolerance		
Rated speed rpm	: > 100	I	cm3/1000s.		
Rated speed rpm	: < 200	+			
Check		Į			
speed 1/min	: > 80	+			
Check		†	LOW IDLE		
speed 1/min	: < 220	Ī	Rated speed rpm	: 300	
			Del. quantity	. 000	
FUEL DELIVERY CHA	RACTERISTICS	+	Del. quantity cm3/1000 strokes	: 12.0	
		+	cm3/1000 strokes	: +- 2.0	
		+			

Check tolerance cm3/1000s. : +- 4.5 Spreed cm3/1000 strokes : 2.0

Check tolerance cm3/1000s. : 4.0